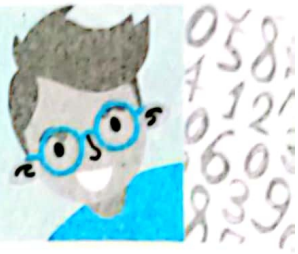
1 Assessments on Units

Assessment on Unit 1



First: **Choose the correct answer:**

a If $12 \times 34 = 408$, then $408 \div 12 =$ ..... (12 or 34 or 408 or 36)

b If $574 = 41 \times 14$, then $580 \div 41 = 14$, and the remainder is .....

(14 or 41 or 6 or 16)

c A number that, if divided by 8, the quotient will be 16, and the remainder is 3. (131 or 128 or 19 or 24)

d ..... is a factor of all numbers. (0 or 1 or 2 or 3)

e 7, 5, 3, and 2 are ..... numbers. (even or odd or prime or otherwise)

f The greatest common factor of any two prime numbers is .....

(0 or 1 or their sum or their product)

g The least common multiple of two prime numbers is ..... .

(the greatest number or 1 or their sum or their product)

h $6 \times (7 + 5) =$ .....

((6 × 7) + (6 × 5) or 6 × 7 + 5 or 6 × 7 × 5 or (6 + 7) × (6 + 5))

i (2 X 8) + (2 X 3) = ...

(2 × 8 × 3 or 2 + (8 × 3) or 2 × (8 + 3) or 2 × 8 × 2 × 3)

j $1\frac{3}{4} + 2\frac{1}{2} =$ ..... ($4\frac{1}{4}$ or $3\frac{1}{4}$ or $3\frac{4}{6}$ or 4)

Second: **Complete the following:**

a If $1{,}050 \div 12 = 87$, and the remainder is 6, then $12 \times 87 =$ ..... .

b If $351 \div 27 = 13$, then $13 \times 27 =$ ..... .

c The prime number has ..... factor(s).

d All prime numbers are odd numbers, except ..... is an even number.

e ..... is the smallest prime number.

f Any two numbers are relatively prime numbers if their greatest common factor is .....

g The least common multiple of any two prime numbers is .....

h $8 \times (2 + 7) = (\ldots\ldots \times \ldots\ldots) + (\ldots\ldots \times \ldots\ldots)$

i $3\frac{1}{5} + \ldots\ldots = 5\frac{1}{2}$

Third: **Answer the following:**

1 Find the result:

a 6,527 ÷ 9 = ...

b 2,592 ÷ 24 = ...

c $5\frac{3}{8} + 2\frac{5}{6}$ = ...

d $7\frac{1}{4} - 3\frac{3}{5}$ = ...

2 A compound consists of 840 housing units, each building within this compound consists of 15 housing units.

How many buildings in this compound?

.....

(d) The smallest positive integer is .....

(e) The number and its opposite have the ..... distance from zero, but in two ..... directions on a number line.

(f) The rational number "–7.2" lies between the two integers ..... and .....

(g) All natural numbers are ..... numbers and ..... numbers.

(h) The rational number $-\frac{3}{2}$ in the decimal form is .....

(i) If $|a| = 8$, then a = ... or .....

(j) If $|5.6| = n$, then n = ...

Third:

1 Complete using (< , =, or >):

(a) -3.8 ▭ -1.8

(b) $|-2.5|$ ▭ $|-3.6|$

(c) $|\frac{2}{5}|$ ▭ $|-0.4|$

(d) $-3\frac{7}{8}$ ▭ $|-3\frac{5}{8}|$

2 Arrange the following numbers in a descending order:

$0.55 \ , \ -\frac{3}{5} \ , \ |-\frac{1}{2}| \ , \ -\frac{1}{4} \ , \ |0.8|$

..... , ... , ... , ... , ...

Accumulative Assessments on Units 1–2

Assessment 1

First: **Choose the correct answer:**

(a) If 6,688 = 19 × 352, then 6,694 ÷ 19 = 352, and the remainder is ..... .

(14 or 41 or 6 or 16)

(b) The greatest common multiple of 9 and 8 is ..... . (9 or 8 or 1 or 72)

(c) The prime factors of 20 are ..... .

(2 x 10 or 5 x 4 or 2 x 2 x 5 or 1 x 20)

(d) All negative numbers are ..... zero. (< or = or > or ≥)

(e) −25 ..... −12 (< or = or > or ≥)

Second: **Complete the following:**

(a) 6 × (7 + 5) = (..... × .....) + (..... × .....)

(b) ..... comes just before −1.

(c) ..... is the opposite number of "10".

(d) The integer that expresses (The value of the loss is 20 LE) is ..... .

(e) If 7 = | a |, then a = ... or ..... .

Third: **Answer the following:**

(a) If the total price of 25 books is 2,825 pounds,
then what is the price of one book?

.....

(b) Ahmed wants to plant 45 sunflower plants and 81 corn plants in his garden. If he put the same number of plants in each row, what is the greatest number of rows can he make?

.....

.....

.....

..... = ...

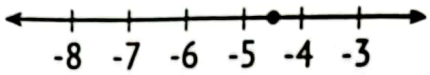
..... = ...

GCF = ...

Assessment 2

First: **Choose the correct answer:**

a The rational number represented on the corresponding number line is ..... .



($4\frac{2}{2}$ or $5\frac{2}{3}$ or $-4\frac{2}{3}$ or $-5\frac{2}{3}$)

b 12 and ..... are relatively prime numbers. (16 or 15 or 35 or 20)

c The opposite of 6 > ..... (−5 or 5 or −7 or 7)

d $\frac{3}{5}$ ☐ $-\frac{5}{3}$ (> or = or < or ≯)

e − 4 is to the right of ..... on the number line. (−5 or 5 or −3 or 3)

Second: **Complete the following:**

a The additive inverse of ..... is itself.

b $-\frac{5}{4}$ = ... (In the decimal form)

c ..... × (..... + ...) = (2 × 8) + (2 × 6)

d ..... is a number whose prime factors are 3, 2, 7.

e $3\frac{1}{5}$ + ... = $8\frac{1}{2}$

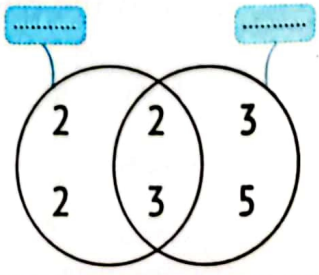
Third: **Answer the following:**

1 Find the results :

a $3\frac{5}{8} + 4\frac{1}{6}$ = ...

b $4\frac{1}{2} - 1\frac{3}{4}$ = ...

2 Complete the following using the opposite Venn diagram.



a The two numbers are ..... and ..... .

b The GCF is ..... c The LCM is .....

Assessment on Unit 3

First: **Choose the correct answer:**

a The algebraic term "5ab" is from ..... factors. (1 or 2 or 3 or 4)

b The number of terms that makes up the algebraic expression "3 x y + 2 x – 5" is ..... term. (2 or 3 or 4 or 5)

c The absolute term in " 3m + 2" is ..... . (2 or 3 or m or 3 m)

d Subtracting the number 3 from twice the number y = ...
(3 – 2y or 2 (y – 3) or 3y – 2 or 2y – 3)

e Samah is now 25 years old. How old was she h years ago?
(25 – h or h – 25 or 25 – h or 25h)

f 5 × 5 × 5 = ... (5 × 3 or 5^3 or 3^5 or 5 + 3)

g $3^2 + 4$ ..... $9 + 2^2$ (> or = or < or ≤)

h If the price of one book is 15 pounds, what is the price of b number of books? (15 b or 15 – b or b – 15 or b + 15)

i The value of (12 – x^3) ÷ 2 if x = 2 is ..... . (8 or 10 or 2 or 6)

j The order that is used to find the value of 2 + 3 (m^2 – 5) if m = 3 is ..... .
(putting exponents in their simplest form, subtraction, multiplication, addition
or addition, exponents, subtraction, multiplication
or putting the exponents in the simplest form, addition, subtraction, multiplication
or multiplication, addition, exponents in simplest form, subtraction)

Second: **Complete the following:**

a If the sum of two integers is S and one of them is 10, then the other number is ..... .

b In 7 x y, the coefficient is ..... .

c Like terms for "3n + 3 + 2n" are ..... .

d Twice of subtracting 5 from the number w = ...

e The verbal form for "$3x - 5$" is .....

.....

f Ahmed's car consumes "n" liters of fuel to travel a distance of 100 km. How many liters does the car need to travel a distance of 600 km? .....

g The value of "$4 \times (y^3 - 7)$" If $y = 3$ is .....

h $3 \times 3 \times 3 \times 3 \times 3 \times 3 =$ .....

i $5^{.....} = 1$ j $4^{.....} = 4$

Third: Answer the following:

1 Moataz saved "n" pounds per day for 9 days, then he got 20 pounds from his father.

a Write an algebraic expression that expresses the amount that Moataz has now: .....

b Complete using the preceding algebraic expression:

① The number of terms of an algebraic expression is ..... .

② The coefficients are ..... .

③ The constants are ..... .

2 Find the value of each of the following two algebraic expressions using the numbers shown, then indicate if these expressions are equivalent or not :

	$2x + 1$	$5x - 4$	Equal or Not?
If $x = 5$			
If $x = 3$			

From the previous table, we find that the two algebraic expressions are ..... (Equivalent or Not).

Accumulative Assessments on Units 1 – 3

Assessment 1

First: **Choose the correct answer:**

(a) A number that, if divided by 9, the quotient is 15, and the remainder is 3, is ..... . (135 or 128 or 138 or 27)

(b) ..... is the opposite of -12 (–12 or 12 or 1 or 2)

(c) The algebraic term "$\frac{3}{4}x$" has ..... a factor. (1 or 2 or 3 or 4)

(d) If we subtract 9 from the number x , the result is .....

($x + 9$ or $x - 9$ or $9 - x$ or $9x$)

(e) 1^5 = ... (1×5 or $1 + 5$ or 1 or 0)

Second: **Complete the following:**

(a) If 2,000 ÷ 51 = 39 and the remainder is 11, then 51 × 39 = ...

(b) The absolute term in the algebraic expression "5b + 3.2" is ..... .

(c) A number whose prime factors are 2, 3, 5 is ..... .

(d) Salah saves Z pounds per day. How much does he save in a week? ..... .

(e) In ..... 4 is called the base and 2 is called the exponent.

Third: **Answer the following:**

(a) Find the value of "4a – 15 ÷ 3" [If a × 2.5]

.....

.....

(b) Arrange the following numbers in a descending order:

$$0.8 \ , \ -\frac{1}{5} \ , \ \frac{1}{2} \ , \ -\frac{3}{4} \ , \ |-0.25|$$

The order: ..... , ... , ... , ... , ...

(c) Bassem runs one kilometer in 15 minutes.
Write a mathematical expression that expresses the number of kilometers that Bassem runs in " t " minutes.

.....

Assessment 2

First: Choose the correct answer:

a If $36 \times 28 = 1{,}008$, then $1{,}008 \div 28 =$ ..... . (12 or 34 or 408 or 36)

b In "$-8\ a$" the algebraic factor is ..... . (a or 8 or 8a or - 8)

c $|-3.7| =$ ..... (3.7 or −3.7 or 37 or −37)

d $2 \times 2 \times 2 =$ ..... (2^3 or 3^2 or 2×3 or $2 + 3$)

e $2^3 + 2^3 =$ ..... (2^6 or 4^3 or 2^4 or 4^6)

Second: Complete the following:

a ..... is the smallest prime number.

b The smallest positive integer is ..... .

c The number of terms in the algebraic expression $5y - 25z$ is ..... .

d If the price of a pen is 8 LE then the price of x pens is ..... .

e The verbal form for the algebraic expression $3b + 4$ is ..... .

.....

Third: Answer the following:

1 Follow the order of performing operations to find:

a $4^2 + (2^4 - 7) \times 2$

= .....

= .....

= .....

b $(2^3 + 6) \div (3^2 - 2)$

= .....

= .....

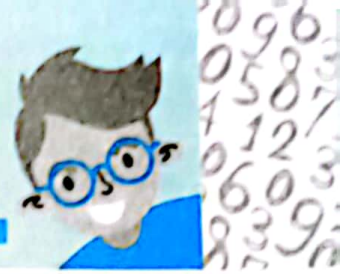
= .....

2 Wael collected $3\frac{3}{4}$ kilograms of dates and gave $2\frac{1}{5}$ kilograms to his friend.

How many kilograms are left with Wael?

.....

Assessment on Unit 4



First: **Choose the correct answer:**

(a) If $a + 3 = 7$, then $a =$ ..... . (7 or 3 or 10 or 4)

(b) If $b - 6 = 2$, then $b -$ ..... $= 2$. (4 or 8 or 2 or 3)

(c) If $5x = 40$, then $x =$ ..... . (35 or 45 or 8 or 200)

(d) If $y - 6$, then $\frac{y}{\text{.....}} = 2$. (3 or 8 or 12 or 4)

(e) The inequality that represents all values "greater than 4" is ..... .

($x > 4$ or $x < 4$ or $x \leq 4$ or $x \geq 4$)

(f) The inequality that represents all values "less than or equal to −2" is ..... .

($x > -2$ or $x < -2$ or $x \leq -2$ or $x \geq -2$)

(g) The inequality that represents all negative numbers are ..... .

($x > 0$ or $x < 0$ or $x \leq 0$ or $x \geq 0$)

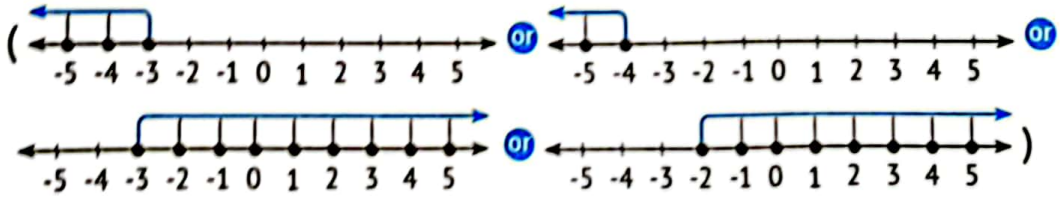
(h) Which of the following is a solution to the inequality $x < -6$?

(5 or −5 or −7 or 7)

(i) The inequality represented by the corresponding graph is ..... .

($x > 4$ or $x < 4$ or $x \leq 4$ or $x \geq 4$)

(j) The graph expressing the inequality "$x < -3$" is ..... .



Second: **Complete all of the following:**

(a) If $x + 7 = 9$, then $x =$ ..... .

(b) If $4m = 20$, then $m =$ ..... .

(c) If $b - 12$, then $b -$ ..... $= 8$.

(d) If $d = 3$, then ..... $\times d = 18$.

(e) If k = 6, then 2 = ... + k.

(f) The equation that represents the corresponding model is ..... .

(g) The inequality that represents all values "less than –6" is ..... .

(h) The inequality that represents all values "greater than or equal to 3" is ..... .

(i) The inequality tht represents all positive integers are ..... .

(j) The similarities between the graphs of the two algebraic expressions $x = 9$ and $x \geq 9$ are ..... .

Third: Answer the following:

1 Find the value of the variable in each of the following equations:

(a) $x - 5 = 4$

= .....

= .....

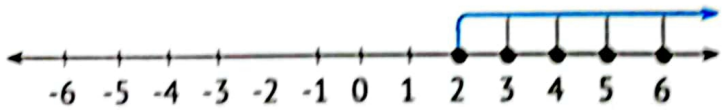
(b) $4x = 24$

= .....

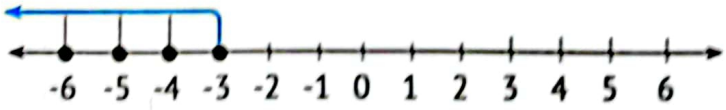
= .....

2 Use the following number line to write inequalities:

(a) .....



(b) .....



Accumulative Assessments on Units 1 – 4

Assessment 1

First: **Choose the correct answer:**

a ..... is a factor of all numbers. (0 or 1 or 2 or 3)

b The number –3 is located to the right of the number ..... .
on the number line. (–4 or 4 or –2 or 2)

c In the algebraic term "–5 a b " the coefficient is ..... .
(a or b or 5 or –5)

d If $5x = 15$, then $3x$ = ... (3 or 12 or 9 or 15)

e Which of the following is a solution to the inequality "$x > -2$" ?
(–5 or –3 or –2 or 0)

Second: **Complete the following:**

a ..... is the smallest prime number.

b If b = | –7 |, then b = ...

c Ahmed is now "y" years old, how old was he 3 years ago? ..... .

d If b = 6, then b + ... = 8.

e The inequality that represents all values greater than or equal to –8 is .... .

Third: **Answer the following:**

Write the equation that represents each of the following models, then find the value of x:

a

Equation: .....

x = ...

b

Equation: .....

x = ...

Assessment 2

First: **Choose the correct answer:**

(a) The least common multiple of any two prime numbers is ..... .

(the greater number or 1 or their sum or their product)

(b) The integer that expresses (The depth of a well of 8 meters) is ..... .

(-8 or 8 or $\frac{1}{8}$ or $-\frac{1}{8}$)

(c) The number of terms that make up the algebraic expression "5 + 2 a b" is ..... .

(2 or 3 or 4 or 5)

(d) If Basim is "x" years old now, how old will he be after 5 years? .....

($x - 5$ or $x + 5$ or $5 \div x$ or $5x$)

(e) If "a + 3 = 7", then 2 a = ...

(10 or 4 or 8 or 20)

Second: **Complete the following:**

(a) The LCM of the two relatively prime numbers is ..... .

(b) 8 × (..... + ...) = (..... × 9) + (..... × 2)

(c) The number "-3" is the opposite of the number ..... .

(d) The absolute term in the algebraic expression $7x + 1$ is ..... .

(e) The inequality that represents all values less than -6 is ..... .

Third: **Answer the following:**

1 A school has 604 boys and 521 girls, it is intended to divide the boys and girls equally into 25 classes in the school.
How many students will be in each class?

.....

.....

2 Solve each of the following equations:

(a) $x - 4 = 8$

= .....

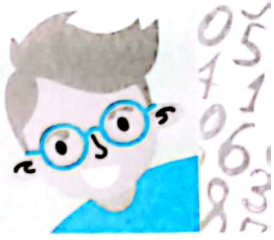
= .....

(b) $3y = 24$

= .....

= .....

Assessment on Unit 5



First: **Choose the correct answer:**

(a) In the equation "a = 3 b", the independent variable is ..... .

(a or b or 3 or 3b)

(b) In the equation "m + 5 = r", the dependent variable is ..... .

(m or 5 or r or 5m)

(c) If the independent variable is the number of studying hours, then the dependent variable is the ..... . (exam result or school uniform color or means of access to school or number of class students)

(d) If the dependent variable is the number of training hours, then the independent variable is ..... . (the number of days you go to the club or the distance between the club and the house or the color of your training clothes or the height of the house)

(e) The equation that expresses the relationship "subtract from 6" is ..... .

($y = x - 6$ or $y = 6 - x$ or $y - x = 6$ or $y = 6x$)

(f) The equation that expresses the relationship "add 5 then multiply by 2" is ..... . ($y = 2x + 5$ or $y = 2(x + 5)$ or $y = 5x + 2$ or $y = (x + 2) \times 5$))

(g) The relation that represents the equation "$y = (x - 8) \div 3$" is ..... .

(divide by 8, then subtract 3 or subtract 8, then divide by 3 or divide by 3, then subtract 8 or subtract 3, then divide by 8)

(h) If $y = 2x + 3$, $x = 2.5$ then y = ... (5 or 11 or 8 or 5.5)

(i) If $y = 2(x + 4)$, $x = 5$, then y = ... (11 or 29 or 18 or 14)

(j) If $y = 5x - 8$, $x = 8$, then y = ... (32 or 2 or 30 or 12)

Second: Complete the following:

a In the equation "8 a = b" the independent variable is ..... .

b If the number of cars in the garage depends on the size of the garage, then:

1 the independent variable is ..... .

2 the dependent variable is ..... .

c If the independent variable is what Ahmed saves every day and the dependent variable is what he saves in one week, then ..... depends on ..... .

d If the rule is "add 2.4", then

1 the equation is ..... .

2 if x = 4, then y = ...

e If the rule is "divide by 4" then

1 the equation is ..... .

2 if x = 16, then y = ...

f If the equation is y = (15 + x) ÷ 4, then :

1 the rule is ..... .

2 if x = 5, then y = ...

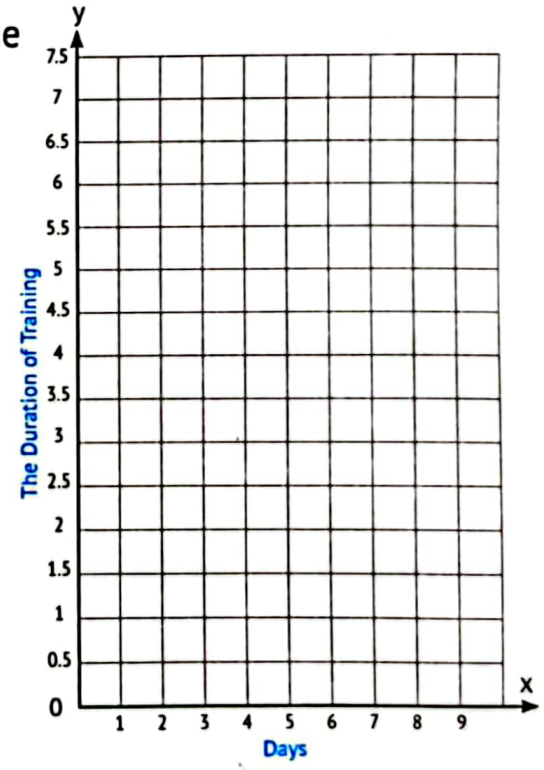
Third: Sameh trains for 6 hours divided into 4 days equally:

Complete the following table, where the variable "x" represents the number of days, and the variable "y" represents the duration of training in hours. Write an equation that shows the relationship between the variables "x" and "y", and then represent it graphically.

x	1	2	3	4
Y	.....	.....	.....	.....

The equation

.....



Accumulative Assessments on Units 1–5

Assessment 1

First: **Choose the correct answer:**

(a) The GCF of 4 and 15 is ..... . (0 or 1 or 4 or 5)

(b) The greatest non-negative integer is ..... . (1 or 0 or -1 or -2)

(c) The integer that expresses: "Hossam moved three steps back" is ..... .
(-3 or 3 or $x + 3$ or $x - 3$)

(d) If the side length of a square is s cm, then the perimeter of the square = ...
(s + 4 or s – 4 or 4s or s ÷ 4)

(e) If $3^x = 27$, then the value of x = ... (2 or 3 or 9 or 24)

Second: **Complete the following:**

(a) $6^2 \div 3^2 \times 2$ = ...

(b) If 15 = 8 + a, then 3a = ...

(c) If y = 2x + 4, x = 3 then y = ...

(d) The inequality that represents all values "to the left of the number 2" on the number line is ..... .

(e) The relationship that expresses the equation "y = 5x" is ..... .

Third: **Answer the following:**

[1] Diaa saves 150 pounds every month, so if the amount he saves in (x) months is (y) pounds, then:

(a) The equation that represents this situation is ..... .

(b) The independent variable is ..... .

(c) The dependent variable is ..... .

(d) What Diaa saves in a year is ..... .

[2] The owner of a juice shop owns 5,950 paper cups. If he uses them within 17 days equally, how many cups did he use every day?

.....

Assessment 2

First: Choose the correct answer:

(a) 8 and ..... are relatively prime numbers.

(6 or 15 or 20 or 12)

(b) An integer between 2 and –2 is .....

(–1 or –3 or 3 or –4)

(c) The number m plus 18 and the result divided by 3 = ...

($m + \frac{18}{3}$ or $\frac{m}{3} + 18$ or $3 \div (m + 18)$ or $(m + 18) \div 3$)

(d) 3^4 = ...

($4 \times 4 \times 4$ or $3 \times 3 \times 3 \times 3$ or 3×4 or $3 + 4$)

(e) If $y = 27$, then $\frac{y}{.....} = 9$

(18 or 3 or 27 or 9)

Second: Complete the following:

(a) Prime numbers less than 10 are .....

(b) ..... × (3 + 6) = (9 × .....) + (9 × .....)

(c) Integers between -3 and 2 are .....

(d) Opposite numbers on a number line have ..... absolute values (same - different)

(e) The value of the expression "$3 \times (y^2 - 5)$" when $y = 3$ is .....

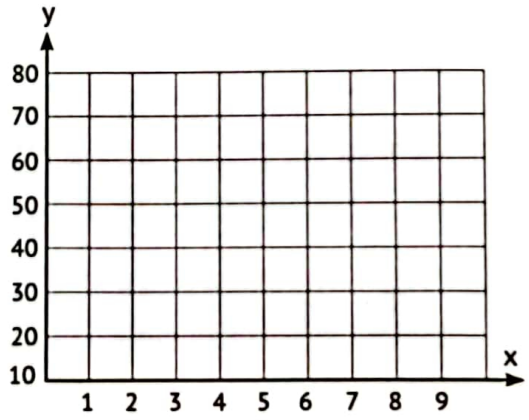
Third: Answer the following:

Omar manufactures hats, producing 10 hats per day, the following table represents the number of working days (x) and the number of hats produced (y). Represent it graphically.

x	2	4	6	8
Y	20	40	60	80

The equation

.....



Assessment on Unit 6

First: **Choose the correct answer:**

a Statistical question ..... .

(it results in a lot of different answers or has one answer

or its answer is yes or no or its answer is one number)

b From the categorical data ..... .

(birthdates or ages or weights or favorite colors)

c From numerical data .....

(preferred colors or blood types or places of birth or ages)

d All of the following data are categorical, except for ..... .

(favorite foods or jobs or weight or eye colors)

e All of the following data are numerical, except ..... .

(temperatures or lengths or names or weights)

f The horizontal axis includes numerical periods in a ..... .

(dot plot or bar graph or double bar graph or histogram)

g A ..... does not have a vertical axis.

(dot plot or bar graph or double bar graph or histogram)

h In a ..... there is a graduated scale for the vertical axis.

(dot plot only or bar graph only

or both bar graph and histogram or histogram only)

i The maximum value of the values 8, 6, 8, 7, 2, 6, 3 is ..... .

(2 or 7 or 8 or 6)

j The upper quartile of the values 9, 3, 0, 4, 8, 1, 7 is ..... .

(9 or 4 or 1 or 8)

Second: Complete the following:

(a) Types of questions are ..... questions and ..... questions.

(b) Types of statistical data are ..... data and ..... data.

(c) The monthly income of an institution's employees is from the ..... data.

(d) The number of letters of the first name of each student in the class, is from the ..... data

(e) The best graph to represent the number of pupils between the ages of 12 – 15 years is .....

(f) The best graph to represent the number of studying hours for a student on Saturday is .....

(g) The median of the values "9, 2, 8, 6" is .....

(h) The minimum value of the values 2 , 9 , 1 , 1 , 8 , 5 is .....

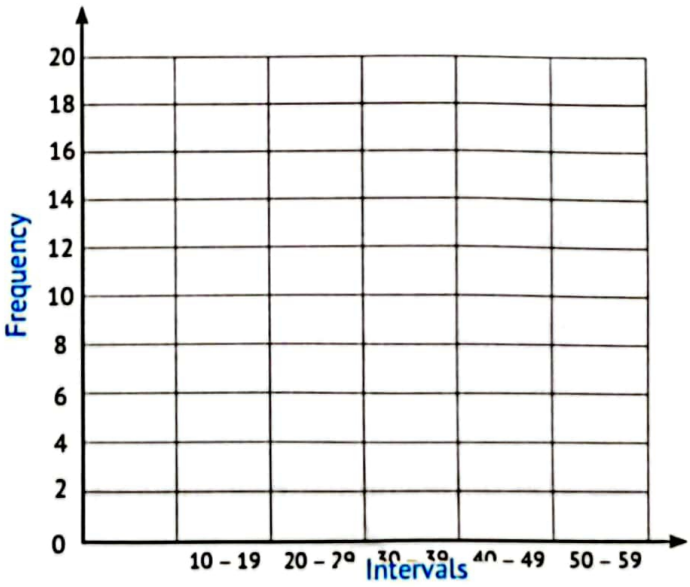
(i) The most appropriate graph to represent individual data and the number of data values present is .....

(j) The most appropriate graph to represent peaks and gaps and aggregate data is .....

Third: Answer the following:

1 Draw the histogram of the following data , which represent the scores of 50 students.

Interval Grades	Frequency Number of Students
10 – 19	4
20 – 29	12
30 – 39	18
40 – 49	9
50 – 59	8



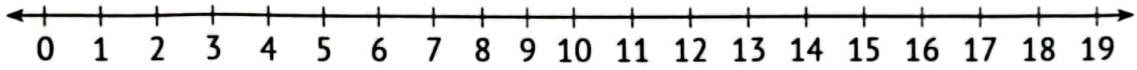
[2] Draw the box plot for each of the following groups of values

(3 , 8 , 7 , 2 , 10 , 12 , 9 , 2 , 10 , 9).

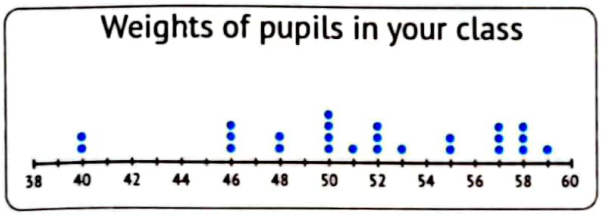
The order: .....

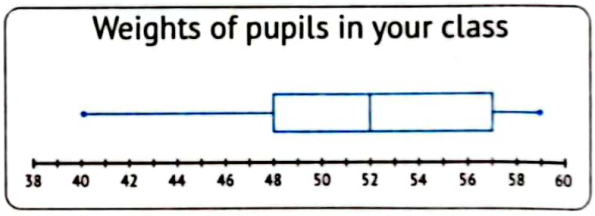
Minimum Value: ..... Maximum Value: ..... Median: .....

Upper Quartile: ..... Lower Quartile: .....



[3] The dots plot and the box plot below show the weights of a number of pupils in your class?





ⓐ Answer the following, explaining the best graph(s) that helps you in the answer.

	Question	Answer	Graph	
			Dot Plot	Box Plot
①	How many students weigh 57 kg?			
②	What is the median value?			
③	What is the height of the lightest pupil zone?			
④	What is the height of the heaviet students?			
⑤	How many students weigh more than 54 cm?			

ⓑ Write two questions that can be answered using:

Dot plot

① ..... ② .....

Box plot

① ..... ② .....

Accumulative Assessments on Units 1–6

Assessment 1

First: Choose the correct answer:

a The GCF of relatively prime numbers is ..... .
(0 or 1 or their sum or their product)

b ..... is neither a positive nor a negative number. (0 or 1 or -1 or 10)

c All integers are ..... numbers.
(counting or natural or even or rational)

d The number of terms that make up the algebraic expression "$5x + 3y + 2$" is ..... . (2 or 3 or 5 or 6)

e The inequality that represents all values less than or equal to -7 is ..... .
($x > -7$ or $x < -7$ or $x \leq -7$ or $x \geq -7$)

Second: Complete the following:

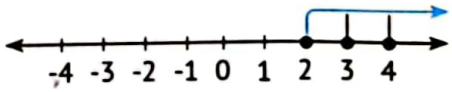
a ..... to the power ..... = 6^4

b If a meal costs 65 pounds, what is the price of "b" meals of the same type
= ..... .

c If $8m = 16$, then $2m + 3$ = ...

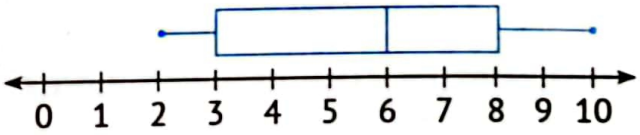
d The inequality that represents positive integers is ..... .

e The inequality represented on opposite number line is ..... .



Third: Answer the following:

1 Use the opposite box plot to find:



a Minimum Value: .....

b Maximum Value: .....

c Median: .....

d Upper Quartile: .....

e Lower Quartile: .....

2 Find the value of each of the following:

a $d^3 + 7$ If [$d = 3$]
= .....

b $37 - 4e$ If [$e = 2$]
= .....

Assessment 2

First: Choose the correct answer:

(a) ..... is a prime number. (55 or 11 or 22 or 33)

(b) $-\frac{7}{4} >$ ..... ($\frac{7}{4}$ or $-1\frac{3}{4}$ or $\frac{8}{4}$ or $-\frac{8}{4}$)

(c) The number of terms of algebraic expression "8 + 3 x y" is .....

(2 or 3 or 4 or 5)

(d) The expression representing:

"half the difference between the number a and 7" is .....

($\frac{1}{2}a-7$ or $\frac{1}{2}a+7$ or $\frac{1}{2}(a-7)$ or $\frac{1}{2}(a+7)$)

(e) 5^0 ..... 0^5 (< or = or > or ≥)

Second: Complete the following:

(a) Do you like the red color? is a ..... question.

(b) The median of the values: 5, 7, 8, 3, 6 is .....

(c) ..... is the only prime even number.

(d) The next number to 0 is .....

(e) Like terms in the algebraic expression "3 b + 5 a + 2 b + 5" are .....

Third: Answer the following:

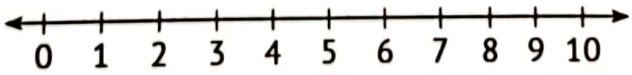
(a) A travel agency wants to divide 3,556 passengers using microbuses, each one has 14 seats. How many microbuses can the travel agency use?

.....

.....

(b) Draw the box plot for the following groups of values:

(5 , 8 , 3 , 2 , 8 , 6 , 4).



Assessment on Unit 7

First: **Choose the correct answer:**

(a) If the mean of a set of values is 7 and the number of these values is 9, then the sum of the values is ..... . (16 or 63 or 2 or 9)

(b) If the mean of a set of values is 8 and the sum of these values is 48, then the number of these values is equal to .....(6 or 40 or 56 or 8)

(c) ..... is not affected by outliers in the data set.

(The mean or The mode or The median or all of them)

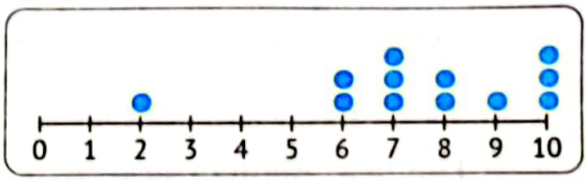
(d) The range cannot be found using ..... .

(dot plot or histogram or box chart or all of them)

(e) ..... is one of the measures of variability (spread).

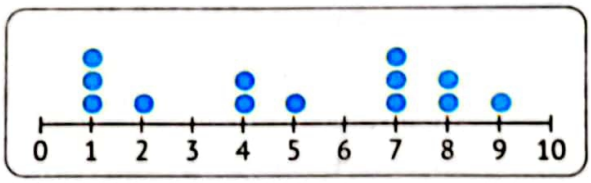
(The mean or The median or The mode or The range)

(f) The correct description that applies to the opposite graph is the mean .....



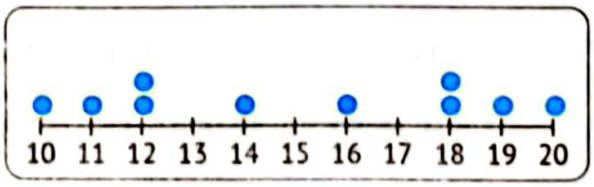
(increases or decreases or remains the same or The range)

(g) The beast choice as a measure of central tendency for the values represented In the opposite graph is .....



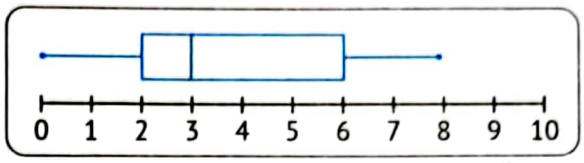
(the mean or the median or the mode or both the mean and the median)

(h) The mean of the values represented by opposite dot plot graph is .....



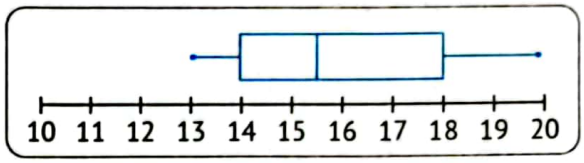
(15 or 20 or 14 or 16)

(i) The median of the values represented by opposite box plot graph is .....



(2 or 3 or 6 or 8)

(j) The range of values represented on the opposite box plot is .....



(4 or 18 or 5 or 7)

Second: Answer the following:

(a) The mean of the values: 9, 7, 3, 1, 8, 2 is .....

(b) The mode of the values 5, 3, 8, 7, 3, 5 is .....

(c) The range for the values: 15, 5, 17, 3, 12 is .....

(d) The outliers in the set of values: 5, 18, 3, 4, 7, 6 are .....

(e) ..... and ..... are affected by the presence of outliers.

Third: Answer the following:

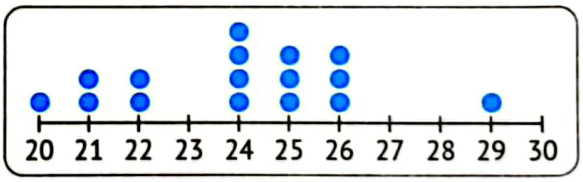
1 Using the corresponding graph (answer).

(a) The Mean: .....

(b) The Median: .....

(c) The Mode: .....

(d) The Range: .....



(e) Outliers: .....

2 The following table represents the temperatures recorded in a city in a week:

Day	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday
Temperature	26°	25°	30°	25°	23°	24°	22°

Using the values shown table, find:

(a) The Mean: .....

(b) The Median: .....

(c) The Mode: .....

(d) The Range: .....

(e) Outliers: .....

Accumulative Assessments on Units 1-7

Assessment 1

First: Choose the correct answer:

(a) The GCF of 9 and 8 is ..... . (9 or 8 or 1 or 72)

(b) $1\frac{3}{4} + 2\frac{1}{2}$ = ... ($4\frac{1}{4}$ or $3\frac{1}{4}$ or $3\frac{4}{6}$ or 4)

(c) The rational number $-2\frac{3}{4}$ is between the two whole numbers ..... .
(−1 , −2 or −2 , −3 or 1 , 2 or 2 , 3)

(d) Twice the sum of 7 and x is ..... .
($2x + 7$ or $2(x + 7)$ or $27 + x$ or $2(2x + 7)$)

(e) ..... may uses separate columns to represent the data.
(Dot plots or Bar graph or Double bar graph or Histogram)

Second: Complete the following:

(a) The smallest two-digit prime number is ..... .

(b) The additive inverse of 5.9 is ..... .

(c) The algebraic factor in the term "2.5 x" is ..... .

(d) The inequality that represents all values "greater than −1" ..... .

(e) $z + 5 = m$: independent variable is ..... , dependent variable is ..... .

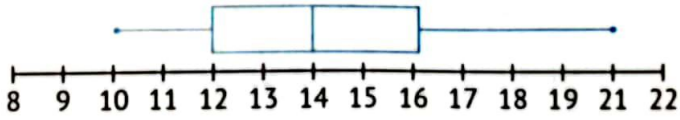
Third: Answer the following:

1 Use the following Box Plot to Complete:

(a) Maximum Value: .....

(b) Minimum Value: .....

(c) Median: .....



(d) Range: .....

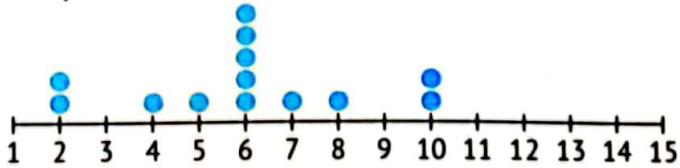
2 Use the following Dot Plot to Complete:

(a) Maximum Value: .....

(b) Minimum Value: .....

(c) Median: .....

(d) Mean: .....



(e) Range: .....

Assessment 2

First: **Choose the correct answer:**

ⓐ $(2 \times 8) + (2 \times 3) =$ .....

($2 \times 8 \times 3$ or $2 + (8 \times 3)$ or $2 \times (8 + 3)$ or $2 \times 8 \times 2 \times 3$)

ⓑ 5 is not a/an .....

(counting number or natural number or integer, or even number)

ⓒ $5 \times 3 + 2^2 =$ ..... (35 or 19 or 51 or 17)

ⓓ Which of the following values is a solution to the inequality "$x \geqslant 5$"? ..... (-5 or 4.59 or -25 or 6)

ⓔ ..... are categorical data.

(Heights or Ages or Weights or Favourite colors)

Second: **Complete the following:**

ⓐ The prime number has only ..... factor(s).

ⓑ The integer that expresses:

"the temperature is 15 below zero" is .....

ⓒ If $5 = |m|$, then $m =$ ..... or .....

ⓓ The number of terms in the algebraic expression:

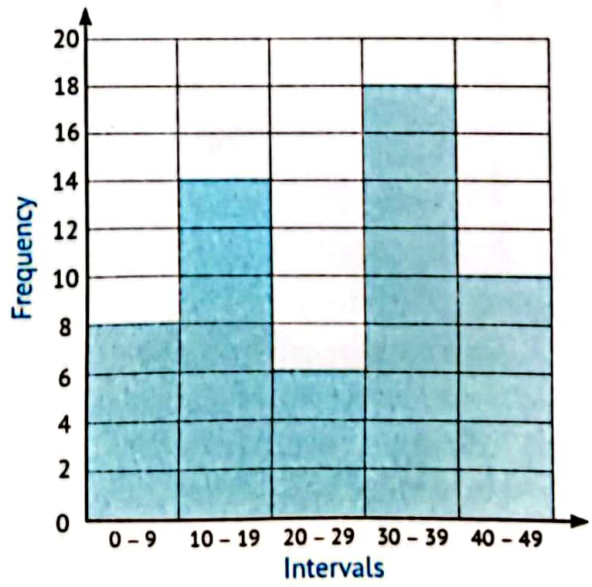
"$3x + 7y - 25$" is .....

ⓔ Categorical statistical data, written in the form of .....

Third: **Answer the following:**

1 Complete the following table using the opposite histogram:

Intervals	Frequency
0 – 9	.....
10 – 19	.....
20 – 29	.....
30 – 39	.....
40 – 49	.....



2 Final Revision

First: **Choose the correct answer:**

1. If $15 \times 27 = 405$, then $405 \div 15 =$ ..... . (27 or 15 or 405 or 175)
2. If $2{,}054 = 26 \times 79$, then $2{,}060 \div 79 = 26$, and the remainder is ..... .
(14 or 41 or 6 or 16)
3. ..... $\div 11 = 14$ R3 (158 or 157 or 156 or 154)
4. ..... is a factor of all numbers. (0 or 1 or 2 or 3)
5. The prime number ..... . (has no factors or has only one factor
or has two factors or has three factors)
6. The prime factors of 12 are ..... .
(3×4 or $2 \times 2 \times 3$ or 2×6 or 1×12)
7. If the prime factors of a number are $2 \times 2 \times 2$, then the number is ..... .
(8 or 4 or 6 or 222)
8. The LCM of any two prime numbers is ..... .
(the smallest number or 1 or their sum or their product)
9. The LCM of of a relatively prime number is ..... .
(the smallest number or 1 or their sum or their product)
10. The GCF of 4 and 15 is ..... . (0 or 1 or 4 or 5)
11. 6 and ..... are relatively prime numbers.
(4 or 15 or 35 or 20)
12. ..... is a multiple of all numbers. (0 or 1 or 2 or 3)
13. ..... is a prime number. (55 or 11 or 22 or 33)
14. 0, 6, 8, 2 are ..... numbers.
(even or odd or prime or counting)
15. The prime factors of 20 are ..... .
(2×10 or 5×4 or $2 \times 2 \times 5$ or 1×20)

16 If the prime factors of a number are $2 \times 3 \times 3$, then the number is .....

(18 or 9 or 11 or 233)

17 The greatest common factor of any two prime numbers is .....

(0 or 1 or their sum or their product)

18 The least common multiple of two prime numbers is .....

(smallest number or 1 or their sum or their product)

19 The least common multiple of a relatively prime number is .....

(greatest number or 1 or their sum or their product)

20 The least common multiple of 8 and 5 is .....

(8 or 5 or 13 or 40)

21 The greatest common factor of 6 and 25 is .....

(1 or 2 or 4 or 5)

22 8 and ..... are relatively prime numbers.

(4 or 24 or 35 or 20)

23 12 and ..... are relatively prime numbers.

(8 or 25 or 36 or 18)

24 The greatest common factor of a number whose prime factors are 2 and 5, and a number whose factors are 3 and 7 is .....

(0 or 10 or 1 or 210)

25 ..... is a factor of all numbers. (0 or 1 or 2 or 3)

26 $6 \times (7 + 5) =$ .....

($(6 \times 7) + (6 \times 5)$ or $6 \times 7 + 5$ or $6 \times 7 \times 5$ or $(6 + 7) \times (6 + 5)$)

27 $(4 \times 9) + (4 \times 3) =$ .....

($4 \times 9 \times 3$ or $(4 \times 9) + 3$ or $4 + (9 \times 3)$ or $4 \times (9 + 3)$)

28 $1\frac{3}{4} + 2\frac{1}{4} =$ ..... ($4\frac{1}{4}$ or $3\frac{1}{4}$ or $3\frac{4}{6}$ or 4)

29 -3 is located to the right of ..... on the number line.

(−4 or 4 or −2 or 2)

30 The number that comes just before ..... is -1. (−2 or 2 or 0 or 1)

31 $-9 >$ ..... (-15 or 8 or -8 or 10)

32 The opposite of -12 is ..... . (-12 or 12 or 1 or 2)

33 ..... is neither a positive nor a negative number. (0 or 1 or -1 or 10)

34 The opposite of $5 >$ ..... (-4 or 4 or -6 or 6)

35 The largest negative integer is ..... . (-1 or 1 or -100 or 0)

36 The largest non-positive integer is ..... . (-1 or 1 or -100 or 0)

37 All negative numbers ..... zero. ($<$ or $=$ or $>$ or $\leq$)

38 All positive numbers ..... zero. ($<$ or $=$ or $>$ or $\leq$)

39 The integer that expresses (the depth of a well of 5 meters) is ..... .

(-5 or 5 or -10 or 10)

40 An integer between 2 and -2 is ..... . (-1 or -3 or 3 or -4)

41 The number just after -9 is ..... . (-10 or -8 or 10 or 8)

42 -25 ____ -12 ($<$ or $=$ or $>$ or $\leq$)

43 $6 <$ ..... (-8 or 8 or -9 or -7)

44 -2.5 is a/an .....

(counting number or natural number or integer or rational number)

45 5 is not a/an ..... .

(counting number or natural number or integer or even number)

46 0 is a/an ..... number.

(counting or natural or negative integer or odd)

47 The opposite of $-\frac{3}{4}$ is ..... . ($\frac{3}{4}$ or $-\frac{4}{3}$ or $\frac{4}{3}$ or $1\frac{1}{3}$)

48 -6 in the form $\frac{a}{b}$ is ..... . ($-\frac{1}{6}$ or $-\frac{6}{1}$ or $\frac{1}{6}$ or $-\frac{6}{1}$)

49 Additive inverse of a number $\frac{3}{5}$ ____ $-\frac{5}{3}$ ($<$ or $=$ or $>$ or $\leq$)

50 $-\frac{7}{4} >$ ..... ($\frac{7}{4}$ or $-1\frac{3}{4}$ or $\frac{8}{4}$ or $-\frac{8}{4}$)

51 -2 is a/an ..... .

(counting number or natural number or negative integer or odd number)

52 All integers are ..... numbers.

(counting or natural or even or rational)

53 The additive inverse of −5 is ..... ($\frac{1}{5}$ or $-\frac{1}{5}$ or −5 or 5)

54 Rational number $-2\frac{3}{5}$ is between .....

(−1 , −2 or −2 , −3 or 1 , 2 or 2 , 3)

55 −7 is to the right of ..... on the number line.

(−8 or 8 or −6 or 6)

56 $|-3.7|$ = ... (3.7 or −3.7 or 37 or −37)

57 The absolute value of "zero" is ..... (10 or 0 or −1 or 1)

58 The absolute value of 2.7 is ..... (−2.7 or 2.7 or 27 or −27)

59 The larger the absolute value, the ..... number zero.

(closer to or farther from or equal to)

60 The algebraic term "$\frac{1}{5}x$" has ..... factors. (1 or 2 or 3 or 4)

61 In the algebraic term "$-3xy$" the coefficient is .....

(y or x or 3 or −3)

62 The algebraic factor in the algebraic term "$\frac{3}{8}x$" is .....

(x or 8 or 3 or $\frac{3}{8}$)

63 The number of terms of "7 a − 2 b" is ..... (2 or 3 or 5 or 6)

64 Like terms for the algebraic expression "5 + 5 y + 2 y" are .....

(5 , 5 y or 5 y , 2 y or 5 , 2 y or 5 , 5y , 2y)

65 Like terms for the algebraic expression "2 + 3 b + 2 a" are .....

(2 , 3 b or 2 , 2 a or 3 b + 2 a or none)

66 In the algebraic expression "3 y + 9" the absolute term is .....

(9 or 3 or y or 3y)

67 If the height of the school building is "m" meters and the height of the tree adjacent to this building is 10 meters less than its height, then height of the tree is ..... meters. (m + 10 or m − 10 or 10 m or $\frac{m}{10}$)

68 Ahmed and Tamer have 60 pounds, if what Ahmed has is "x" pounds, then what Tamer has is ..... pounds

($60 + x$ or $60 - x$ or $60x$ or $60 \div x$)

69 If we subtract 5 from the number "x", the result is .....

($x + 5$ or $x - 5$ or $5 - x$ or $5x$)

70 The algebraic term is "5 ab" formed from ..... factors.

(1 or 2 or 3 or 4)

71 Ziyad saved up "x" pounds and his father gave him 10 pounds so that he would be with him ..... ($x - 10$ or $x + 10$ or $10x$ or $10 - x$)

72 The algebraic expression representing (subtracting 3 from twice the number "x")is ..... ($x - 3$ or $2x - 3$ or $3x + 2$ or $5x$)

73 The algebraic expression representing (half the difference between the number "a" and 7) is .....

($\frac{1}{2}a - 7$ or $\frac{1}{2}a + 7$ or $\frac{1}{2}(a - 7)$ or $\frac{1}{2}(a + 7)$)

74 If Basim is "n" years old now, how old will he be after 7 years? .....

($n - 7$ or $n + 7$ or $7 \div n$ or $7n$)

75 Which of the following operations expresses the mathematical expression "double the number plus 4"? (+, − or x, − or x, + or x, ÷)

76 A square of side length "s" cm has a perimeter of ..... cm.

($s + 4$ or $s \div 4$ or $s - 4$ or $4s$)

77 If the price of one book is 15 pounds, how much is the price of "b" number of books? ($15b$ or $15 - b$ or $b - 15$ or $b + 15$)

78 4^2 = ... (4×2 or 4×4 or $4 + 2$ or $4 + 4$)

79 3^0 = ... (3 or 0 or 1 or 3×0)

80 1^5 = ... (1×5 or $1 + 5$ or 1 or 0)

81 $2 \times 2 \times 2 \times 2 \times 2$ = ... (2^5 or 5^2 or 2×5 or $2 + 5$)

82 $4^{\dots} = 1$ (0 or 1 or 2 or 5)

83 2^4 ____ 4^2 (< or = or > or ≤)

84 7^0 ____ 0^7 (< or = or > or ≤)

85 $5 \times 3 + 2^2 =$ ..... (35 or 19 or 51 or 17)

86 $3^2 + 3^2 + 3^2 =$ ..... (3^6 or 9^2 or 3^3 or 9^6)

87 If the price of one shirt is 120 Egyptian pounds, then the price of "m" number of shirts is .....(120 m or 120 ÷ m or 120 + m or 120 – m)

88 If Hanan saves "d" pound daily for 5 days, then her father gives her 20 pounds, so the amount that Hanan has now is .....

(5 + 20d or 20 – 5d or 5d + 20 or 5 × (d + 20))

89 The value of the expression $a^2 + 2 \times 3$, If $a = 3$ is .....

(15 or 33 or 12 or 24)

90 If $a + 8 = 15$, then $a =$ ..... (7 or 15 or 8 or 23)

91 If $b = 6$, then $b -$ ..... $= 4$ (10 or 4 or 2 or 6)

92 If $5x = 40$, then $x =$ ..... (35 or 45 or 8 or 200)

93 If $y = 16$, then $\frac{y}{\dots\dots} = 2$. (3 or 8 or 12 or 4)

94 The inequality that represents all values "greater than –1" is .....

($x > -1$ or $x < -1$ or $x \leq -1$ or $x \geq -1$)

95 The inequality that represents all values to the left of 5 on the number line is ..... ($x > 5$ or $x < 5$ or $x \leq 5$ or $x \geq 5$)

96 The inequality that represents all values "less than or equal to –7" is .....

($x > -7$ or $x < -7$ or $x \leq -7$ or $x \geq -7$)

97 The graph of the inequalities "$x > 3$" and "$x < 3$" on the number line are similar in that ..... (3 doesn't belong to any of them

or both include all values to the left of the number 3

or there is a common point between them

or each of them includes all the values to the right of the number 3)

98 The graph of the inequalities " $x < 4$" and " $x \leq 4$" on the number line are similar in that .....

(4 doesn't belong to any of them or they include all values to the left of 4 or there is "a" common point between them or each of them includes all the values to the right of the number 4)

99 Which of the following values is a solution to the inequality " $x < 9$"?

(10 or 9.1 or -9.5 or 9)

100 Which of the following values is a solution to the inequality " $x \geq 5$"?

(-5 or 4.59 or -25 or 6)

101 The inequality for which all negative numbers are .....

($x > 0$ or $x < 0$ or $x \leq 0$ or $x \geq 0$)

102 In " $u = 3 \div w$" the independent variable is ..... (w or u or 3 or $\frac{w}{3}$)

103 In " $a = 5\ d$", the dependent variable is ..... (5 or a or d or 5d)

104 If the amount of fuel consumed by the car depends on the distance traveled, then the independent variable is the .....

(fuel amount or distance traveled or traveled time or temperature)

105 If the dependent variable is the student's score in the exam, then the independent variable is .....

(the type of pen used in the solution or the age of the student or the number of correct answers or the number of questions in the exam)

106 The equation that expresses "subtract from 9" is .....

($y = x - 9$ or $y = 9 - x$ or $y - x = 9$ or $y = 9x$)

107 The equation that expresses "multiply by 2 and then add 5" is .....

($y = 5x + 2$ or $y = 2(x + 5)$ or $y = 5(x + 2)$ or $y = 2x + 5$)

108 The relation that represents the equation " $y = \frac{1}{3}\ x$" is .....

(divide by 3 or multiply by 3 or divide by $\frac{1}{3}$ or subtract $\frac{1}{3}$)

109 The relation that represents the equation "$y = (x - 3) + 2$" is .....

(divide by 2, then subtract 3 or subtract 3, then divide by 2
or divide by 3, then subtract 2 or subtract 2, then divide by 3)

110 $y = 6x + 4$, If $x = 3$ then $y =$ ..... (10 or 22 or 18 or 67)

111 $y = \frac{1}{4}x - 2$, If $x = 8$ then $y =$ ..... (0 or 2 or 6 or 30)

112 Statistical question .....

(results in a lot of different answers or its answer is yes or no
or has one answer or its answer is one number)

113 ..... are categorical data.

(Dates of birth or Ages or Weights or Favorite colors)

114 ..... are categorical data.

(Numbers of students in each class or Test scores
or Numbers of family members or Favourite TV shows) .

115 The horizontal axis includes numerical periods in .....

(dot plot or bar graph or double bar graph or histogram)

116 ..... does not have a vertical axis.

(Dot plot or Bar graph or Double bar graph or Histogram)

117 ..... uses separate columns to represent the data.

(Dot plot or Bar graph or Double bar graph or Histogram)

118 ..... has horizontal axis.

(Bar graph or Double bar graph or Histogram or All of the previous)

119 In the dot plot, ... (columns are used to represent data
or there is no need for a horizontal axis
or each value is represented by a point
or data is displayed grouped in intervals)

120 In the bar graph .....

(each bar represents a number or one categorical data
or it does not need a vertical axis or the bars must touched 0
or each piece of information is represented by a dot)

121 In the histogram .....

(it does not need a vertical axis or the bars must touch or data is shown above the number line or all bars are evenly spaced)

122 In each of the bar graphs and histograms .....

(bars are used to represent data or each bar represents an interval or each bar represents one number or The data is shown above the number line)

123 In the ....., there is a graduated scale for the vertical axis.

(dot plots only or bar graph only or histogram only or both of bar graph and histogram)

124 A ..... may be used to display numerical data.

(dot plot or bar graph or histogram or all of the previous)

125 The best graph to represent the number of pupils whose height ranges from 150 – 160 cm is the .....

(dot plots or bar graph or histogram or all of the previous)

126 The best graph to represent the number of students absent on a Sunday is .....

(dot plots or bar graph or histogram or all of the previous)

127 A ..... has two axes, horizontal and vertical.

(bar graph or double bar graph or histogram or all of the previous)

128 The bar graph ..... (can display numerical and categorical data or can display only numerical data or can display only categorical data)

129 The mean of the values 45, 15, 40 , 70, 80 is .....

(40 or 45 or 50 or 60)

130 If the mean of the values 12 , 15 , x , 8 is 10 then the value of "x" is .....

(40 or 5 or 20 or 10)

131 If the sum of 8 values equals 48, then the mean of these values is .....

(40 or 56 or 24 or 6)

132 If the sum of a set of values is 36, and the mean of these values is 6, then the number of these values is ..... (6 or 42 or 30 or 216)

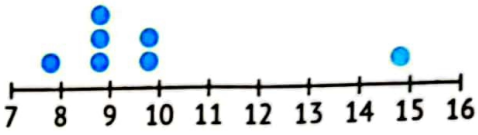
133 The median of the values: 4, 9, 7, 1, 1, 2 is ..... (4 or 2 or 3 or 24)

134 If the mean of Manal and Siham's ages is 7 years, and Manal's age is 8 years, then Siham's age is ..... years. (6 or 7 or 8 or 15)

135 Values "5, 3, 2, 5, 2, 7" has .....

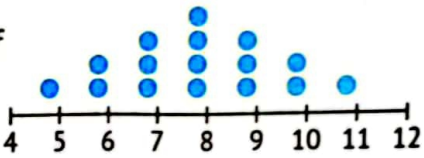
(no mode or one mode or two modes or three modes)

136 The correct description that applies to opposite graph is the mean .....



(increases or decreases or remains the same)

137 ..... will be the best choice as a measure of the centeral tendency in the opposite graph.



(The mean or The median or The mode or Both mean and median)

138 If the range of a set of values is 11 and the smallest value is 7, then the largest value is ..... (4 or 18 or 77 or 70)

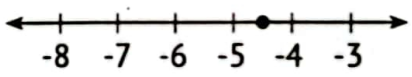
139 All of the following are measures of the center, except .....

(mean or median or mode or range)

140 The range cannot be found using .....

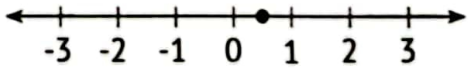
(dot plot or box plot or histogram or bar chart)

141 The rational number represented on the opposite number line is .....



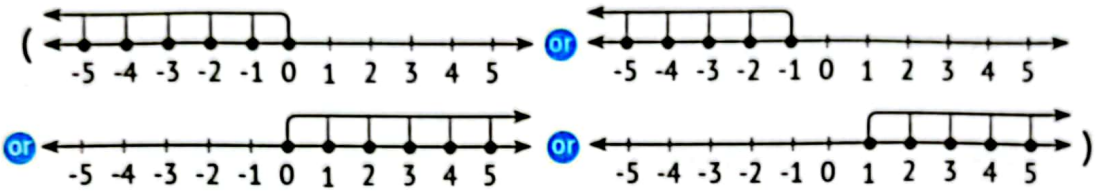
($4\frac{2}{3}$ or $5\frac{2}{3}$ or $-4\frac{2}{3}$ or $-5\frac{2}{3}$)

142 The rational number represented on the opposite number line is .....

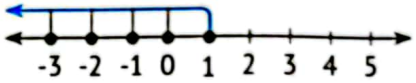


(0.5 or -0.5 or 1.5 or - 1.5)

143 The graph representing the equation "$x < 0$" is .....

()

144 The inequality that represents the opposite model is .....

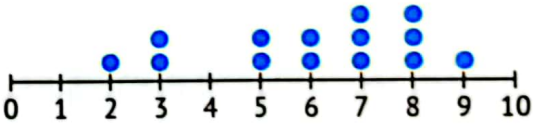


($x > 2$ or $x < 2$ or $x \geq 2$ or $x \leq 2$)

145 The equation that represents the opposite model is .....

($x + 2 = 9$ or $2x = 9$ or $x - 2 = 9$ or $x \div 2 = 9$)

146 The mean of the values represented on the opposite dot plot is .....

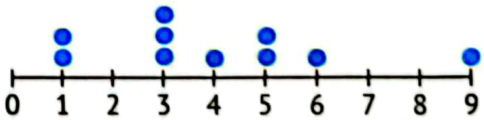


(14 or 6 or 7 or 6.5)

147 The median of the values represented on the opposite dot plot is .....

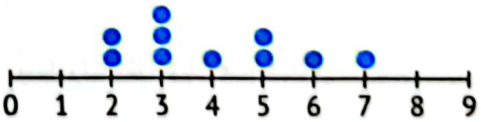
(15 or 8 or 9 or 10)

148 The mode of the values represented on the opposite dot plot is .....



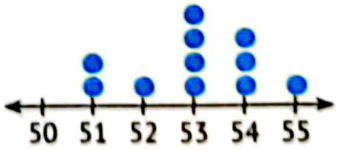
(3 or 5 or 8 or 7)

149 The range of the values represented on the opposite dot plot is .....



(8 or 7 or 10 or 5)

150 The mode of the values represented on the opposite dot plot is .....

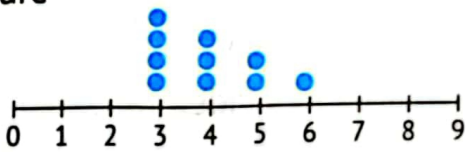


(5 or 6 or 5.5 or 8)

151 The outliers of the values represented on the opposite dot plot is .....

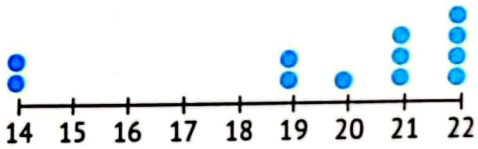
(2 or 7 or 3 or none)

152 ..... will be the best choice as a measure of the centeral tendency in the opposite graph.



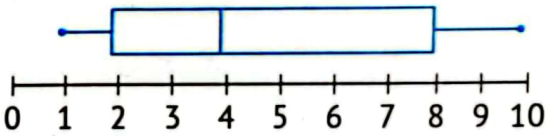
(Mean or Mode or Median or Range)

153 The correct description that applies on the opposite graph is the mean .....



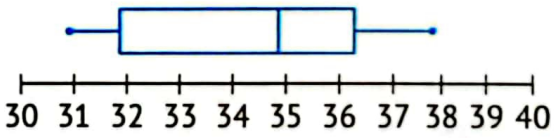
(increases or decreases or remains the same)

154 The range of the values represented on the opposite box plot is .....



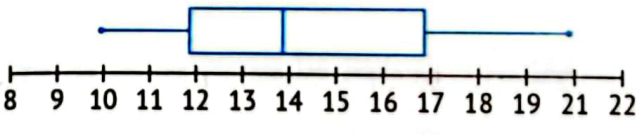
(10 or 2 or 9 or 8)

155 The median of the values represented on the opposite box plot is .....



(31 or 32 or 34 or 38)

156 The lower quartile of the values represented on the opposite box plot is .....



(10 or 12 or 14 or 17)

Second: **Complete the following:**

1. If $13 \times 48 = 624$, then $624 + 13 =$ .....
2. If $976 = 61 \times 16$, then $985 + 61 = 16$, and the remainder .....
3. If $2{,}000 + 51 = 39$ and the remainder is 11, then $51 \times 39 =$ .....
4. The number that, if divided by 35, the quotient will be 139, and the remainder is 21, is .....
5. The prime number has ..... only factors.
6. All prime numbers are odd numbers, except ..... is an even.
7. ..... is the smallest prime number.
8. ..... is the smallest odd prime number.
9. The smallest two-digit prime number is .....
10. Prime numbers less than 10 are .....
11. ..... is a number whose prime factors are 2, 5, 7
12. The GCF of the two relatively prime number is .....
13. The LCM of the two relatively prime number is .....
14. The ..... number has only 2 factors.
15. All prime numbers are odd numbers, except ..... is an even number.
16. ..... is the only prime even number.
17. ..... is a number greater than one, and it has only two factors.
18. The prime factors of 28 are .....
19. Two numbers are relatively prime if their greatest common factor is .....
20. The least common multiple of two prime numbers is .....
21. $5 \times (3 + 6) = (\ldots\ldots \times \ldots\ldots) + (\ldots\ldots \times \ldots\ldots)$
22. $\ldots\ldots \times (\ldots\ldots + \ldots\ldots) = (7 \times 2) + (7 \times 4)$
23. $8 \times (\ldots\ldots + \ldots\ldots) = (\ldots\ldots \times 9) + (\ldots\ldots \times 2)$
24. $\ldots\ldots \times (4 + 6) = (9 \times \ldots\ldots) + (9 \times \ldots\ldots)$
25. The number and its opposite are on ..... from zero, but on two ..... sides on the number line.

26 The opposite of "10" is the number .....

27 The additive inverse of 8 is .....

28 The additive inverse of ..... is itself.

29 The smallest number in counting numbers is .....

30 The smallest counting number is .....

31 The smallest natural number is .....

32 The smallest positive integer is .....

33 The greatest non-positive integer is .....

34 The greatest negative integer is .....

35 The smallest non-negative integer is .....

36 Integers between −3 and 2 are .....

37 5, 4, 3, 2, 1, 0, ...

38 −5, −4, −3, −2, ..., ..., ..., ...

39 Rational number $-\frac{3}{2}$ in the decimal form = ...

40 All counting numbers are also ..... numbers, ...
and ..... numbers.

41 The next number to −8 is .....

42 The rational number "−7.2" lies between ..... and .....

43 The rational number "−5.6" lies between ..... and ..... on the number line.

44 All natural numbers are ..... numbers and ..... numbers.

45 All integers are ..... numbers.

46 −2.5 in the form $\frac{a}{b}$ is ..... (in its simplest form).

47 The rational number $-\frac{7}{4}$ in the decimal form is .....

48 $|-5|$ = ...

49 $|\frac{7}{9}|$ = ...

50 $|-\frac{3}{4}|$ = ...

51 $|0.03| =$ .....

52 $|-0.7| =$ .....

53 If $5 = |a|$, then a = ... or .....

54 If $b = |-7|$, then b = ...

55 If $n = |9|$, then n = ...

56 $-|-4| =$ .....

57 $|9| + |-9| =$ .....

58 Opposite numbers on the number line have ..... absolute values (equal - different).

59 The algebraic factor in "$2.5x$" is .....

60 The coefficient in the algebraic term "$3xy$" is .....

61 The number of terms in the algebraic expression $3xy - 25$ is .....

62 Like terms in the algebraic expression $6x + 6y + 2x + 6$ are .....

63 The absolute term in the algebraic expression $5b + 3.2$ is .....

64 The algebraic expression that expresses "three times b" is .....

65 The algebraic expression that expresses adding "z" to 36 is .....

66 The algebraic expression that expresses 5 less than "x" is .....

67 Baher has "m" stickers in the sticker book and then puts up 12 more stickers. So he has now .....

68 Two numbers their sum is 12, one of which is d, so the other number is (.....)

69 Salah saves "z" pounds per day. So he saves ..... pounds in a week.

70 The verbal form for the algebraic expression $5a + 7$ is .....

71 If the side length of "a" square is "s" cm, then the perimeter of the square = ...

72 The value of the expression $9x$ if ($x = 5$) is .....

73 The value of the expression r^2 if ($r = 9$) is .....

74 The algebraic expressions "$2x + 3$" and "$2(x + 1)$ are ..... expressions. (Equal, Not equal)

75 The value of the expression "3 (y^2 + 2) (if $y = 3$)" is .....

76 Two integers their sum is s, one of which is 10, then the other number is .....

77 In the algebraic term $7 \times y$, the coefficient is .....

78 Like terms for the algebraic expression $3n + 3 + 2n$ are .....

79 The algebraic expression that represents "twice of subtracting 5 from the number "w" is .....

80 The value of the algebraic expression $4 \times (y^3 - 7)$, If $y = 3$ is .....

81 In 5^7 : 5 is called ..... and 7 is called .....

82 In ..... 4 is called the base and 2 is called the exponent.

83 Six cubed = ...

84 Seven squared = ...

85 Four to the power 5 .....

86 ..... to the power ..... = 6^4

87 If $3^x = 81$, then the value of x is .....

88 If $y^3 = 64$, then the value of y is .....

89 $3 \times 3 \times 3 \times 3 \times 3 \times 3$ = ...

90 $5^{.....} = 1$

91 $4^{.....} = 4$

92 $8 \times 8 \times 8 = ...^3$

93 7^2 = ... × .....

94 $6^2 \div 3^2 \times 2$ = ...

95 Using the opposite model:

The equation is .....

x = ...

96 If $x + 3 = 8$, then x = ...

97 If $y - 2 = 9$, then y = ...

98 If $8m = 16$, then $m =$ .....

99 If $\frac{1}{3}n = 3$, then $n =$ .....

100 If $a = 3$, then $a +$ ..... $= 7$

101 If $b = 5$, then $b -$ ..... $= 2$

102 If $d = 4$, then ..... $\times d = 20$

103 If $k = 12$, then $K \div$ ..... $= 4$

104 The inequality that represents all values less than -6 is .....

105 The similarities between the graphs of the two algebraic expressions $x = 6$ and $x \geq 6$ are .....

106 The inequality that represents all values greater than -1: .....

107 The inequality that represents all values less than 2: .....

108 The inequality that represents all values to the right of -9 on the number line are: .....

109 $e = (8 - r)$ independent variable is ....., dependent variable is .....

110 In the equation $(m - 8) = a$, the dependent variable is .....

111 If the price of books depends on the number of books purchased, then:

The independent variable is .....

The dependent variable is .....

112 In the equation $m - 8 = a$, the independent variable is .....

113 The equation that represents the relationship between the number of months "x" and the total money she saved "y" is $y = 50x$, then.

-The independent variable is .....

-The dependent variable is .....

-The money she saved in 6 months is .....

114 If the equation is "$y = x + 4$", then the rule is .....

115 The mean of the values " 8 , 9 , 2 , 7 , 6 , 4 ,6" is .....

116 The median of the values " 8 , 2 , 10 , 1 , 3 , 7 , 2" is .....

117 The mode of the values " 9 , 2 , 8 , 3 , 7 , 3 " is .....

118 Range = ... – .....

119 It is easier to find the range using a ..... or .....

120 The range cannot be found using .....

121 The range for the values "9, 2, 4, 1, 8, 5" is .....

122 If the largest value is 15 and the least value is 3, then the range = ...

123 If the range of a set of values is 12 and the smallest value is 5, then the largest value is .....

124 If the range of a set of values is 25 and the largest value is 52, then the smallest value is .....

125 ..... and ..... are affected by the presence of outliers.

126 If the mean of the values is 3, 4, 6, x, 7 is 6, then the value of x is .....

127 The outliers in the set of values 5, 18, 3, 4, 7, 6 are .....

Third: **Answer the following:**

1 Find :

a $3\overline{)285}$ .....

b $6\overline{)1{,}728}$ .....

c $6\overline{)2{,}657}$ .....

ⓓ $31 \overline{)\ 1{,}519}$

ⓔ $23 \overline{)\ 14{,}484}$

ⓕ $42 \overline{)\ 26{,}544}$

2 Solve the following problems using standard division algorithm:

ⓐ Rana sells in her cafe cakes baked in one of the bakeries. Rana received an order for the delivery of 420 cakes, Rana placed the cakes in bags and in each bag contained 12 cakes . Find the number of bags?

.....

.....

ⓑ A baker prepared 252 pieces of baklava at a party.
If each tray contained 12 pieces of baklava,
how many trays will be needed to prepare all the baklavas?

.....

.....

ⓒ If the total price of 25 books is 2,825 pounds,
what is the price of 36 books ?

.....

.....

(d) The school library received 45 boxes, of 84 books each.
These books will be distributed among 12 cupboards.
How many books will be there in each cupboard?

.....

.....

.....

(e) Hazem has 5 packs of red pencils, each with 32 pencils, and 4 boxes of blue pencils each pack has 16 pencils.
He wants to distribute them evenly to 8 of his friends.
How many pencils will each friend get?

.....

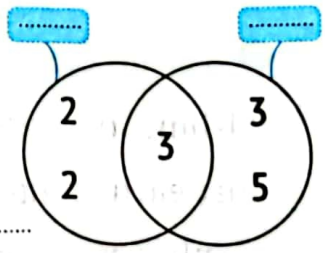
.....

(f) A school has 604 boys and 521 girls, it is intended to divide the boys and girls equally into 25 classes in the school. How many students will be in each class?

.....

.....

[3] Complete using the opposite Venn diagram:



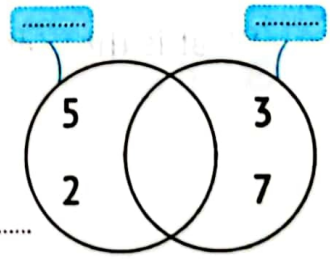
(a) The two numbers are ..... and .....

(b) The common prime factors are .....

(c) The GCF is ..... (d) The LCM is .....

(e) Are the two numbers relatively prime? ..... (Yes or No)

[4] Complete using the opposite Venn diagram:



(a) The two numbers are ..... and .....

(b) The common prime factors are .....

(c) The GCF is ..... (d) The LCM is .....

(e) Are the two numbers relatively prime ? ..... (Yes or No)

5 Ahmed wants to grow 20 jasmine plants and 30 phil plants in his garden. Ahmed wants to plant these plants in basins so that each basin contains the same number of the two types of plants.
Write a numerical expression that represents the largest number of ponds he can plant.

.....
.....
.....

..... =
..... =
GCF = ...

6 A merchant has 16 kg of oranges and 24 kg of apples, so if the merchant wants to divide the oranges and apples in bags of the same mass, what is the largest number of bags that can be made for each type of fruit? Does each bag have the same mass? How many kilograms of oranges will each bag contain? How many kilograms of apples will each bag contain?

.....
.....
.....

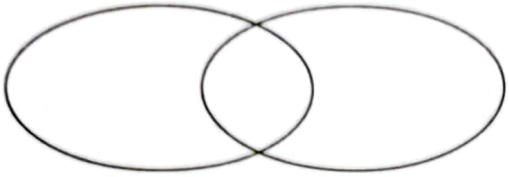
..... =
..... =
GCF = ...

7 Mahmoud wanted to divide 28 pens and 42 notebooks into groups, so that each group contained the same number of tools. What is the largest number of groups that can be configured for each type of instrument to have for each same number group? How many pens are in each group? What is the number of notebooks in each group?

.....
.....
.....

..... =
..... =
GCF = ...

8 Find the GCF and LCM using Venn diagram for numbers 24 and 16:



GCF = ...

LCM = ...

24 = ...

16 = ...

9 Find the result:

a $4\frac{1}{4} + 2\frac{7}{12}$ = ...

b $7\frac{1}{5} + 3\frac{1}{4}$ = ...

c $4\frac{2}{5} - 3\frac{1}{4}$ = ...

d $7\frac{1}{2} - 3\frac{3}{4}$ = ...

10 Ahmed has $5\frac{3}{4}$ LE and Tamer has $15\frac{1}{2}$ LE. Find out the total sum of what they have altogether.

.....

.....

11 Shaima bought a pen for $9\frac{1}{2}$ pounds, a ruler for $5'\frac{1}{4}$ pounds, and a notebook for 4 pounds. How much did Shaima pay?

.....

.....

12 Wael collected $3\frac{3}{4}$ kilograms of dates and gave $2\frac{1}{5}$ kilograms to his friend. How many kilograms left with Wael?

.....

.....

13 A road is 15 km long. it's paved in three stages; $6\frac{2}{5}$ km in the first stage, $4\frac{1}{2}$ km in the second stage. How long is the distance paved in the third stage?

.....

.....

14 Compare using (< , = , or >):

a 2 ☐ 3 b -6 7 ☐ -5 c -8 ☐ 5

d $|-1.5|$ ☐ -1.5 e $|3\frac{1}{4}|$ ☐ $|4\frac{1}{3}|$ f -3.8 ☐ -1.8

g 5.07 ☐ $|-5.07|$ h $|-2.5|$ ☐ $|-3.6|$ i -0.7 ☐ $|-0.7|$

15 Arrange each group of the following numbers in ascending and descending order:

a $8, -17, |-3|, -9, |12|$

Ascending order: ..... , ... , ... , ... , ...

Descending order: ..... , ... , ... , ... , ...

b $-\frac{3}{4}, \frac{5}{8}, \frac{1}{2}, \frac{3}{4}, \frac{1}{4}$

Ascending order: ..... , ... , ... , ... , ...

Descending order: ..... , ... , ... , ... , ...

16 Follow the order of performing operations, then find the value of each of the following:

a $48 + 8 \times 2$ = ... = ...	b $4 + 5 \times 6$ = ... = ...	c $15 \div 3 + 7$ = ... = ...
d $5 \times 2 + 3 \times 4$ = ... = ...	e $(3 + 6) \times 2$ = ... = ...	f $[3 \times (9 - 4)] - 10$ = ... = ...
g $3^2 + 2 \times 5$ = ... = ...	h $3 \times 2^3 \div 12$ = ... = ...	i $(2^4 - 1) \div (3^2 - 4)$ = ... = ...

17 Find the value of the algebraic expression in each of the following:

a $4a - 15 + 3$ [If $a = 2$] = ... = ... = ...	b $(6b + 3) \div 7$ [If $b = 3$] = ... = ... = ...
c $g^2 - 32 + 8$ [If $g = 5$] = ... = ... = ...	d $3^b + 6 \times (b^2 - 3)$ [If $b = 2$] = ... = ... = ...

18 Write a mathematical expression that expresses each of the following situation:

a Bassem runs one kilometer in 15 minutes.

The number of kilometers that Bassem runs in "t" minutes is .....

(b) In a car park, an amount of 10 pounds is collected for parking the car for first hour, and 5 pounds are added for each hour of waiting after the first hour.

The amount collected for parking the car for "h" hours after the first hour is .....

(c) Hala receives a daily wage of "p" pounds. If her expenses in 10 days amounted of 325 pounds.

The amount remaining with her in 10 days is .....

19 Find the value of the variable in each of the following equations:

(a) $4a - 15 \div 3$ [If $a = 6$] = ... = ...	(b) $y - 6 = 11$ = ... = ...
(c) $3b = 45$ = ... = ...	(d) $a \div 6 = 3$ = ... = ...

20 Diaa saves 150 pounds every month from expenses, so if the amount that he saves in (x) month is (y) pounds, then:

(a) The equation that represents this situation is .....

(b) The independent variable is .....

(c) The dependent variable is .....

(d) What Diaa saves in a year is .....

21 If Hazem owns a discount card of 50 pounds. Complete:

(a) The equation represents the relationship between Hazem's purchases amounted (x) pounds, and the amount to be paid after the discount (y) pounds is .....

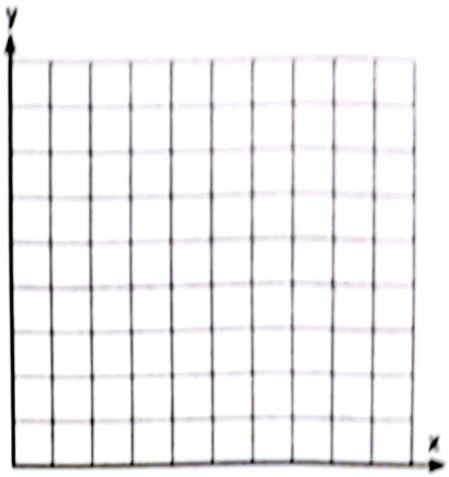
(b) The independent variable is .....

(c) The dependent variable is .....

(d) The required amount if the purchase price before the discount is 420 pounds is .....

22 Omar manufactures hats, producing 10 hats per day. Complete the following table representing the number of working days (x) and the number of hats produced (y).
Write an equation that shows the relationship between the variables x and y and then represent it graphically.

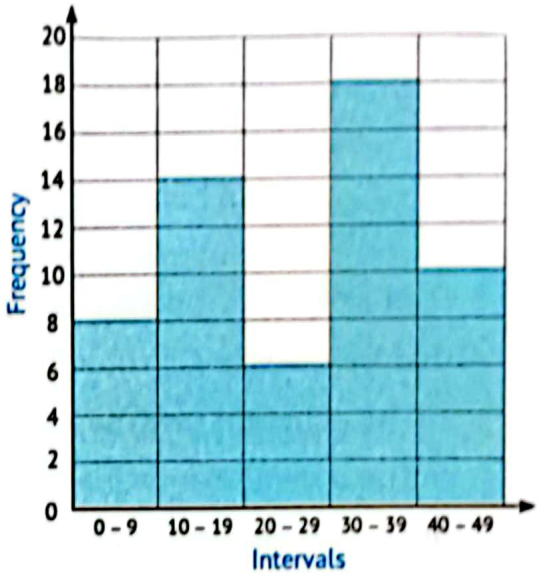
x	2	4	7	9
Y	.....	.....	.....	.....



The equation: .....

23 Using the following histogram, complete the following interval table:

Intervals	Frequency
0 – 9	.....
10 – 19	.....
20 – 29	.....
30 – 39	.....
40 – 49	.....



24 The box plot for each of the following groups of values:

3 , 8 , 7 , 2 , 10 , 12 , 9 , 2 , 10 , 9

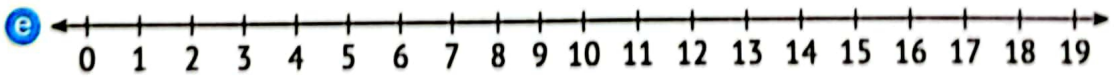
a Arrangement: .....

b Lower Quartile: .....

c Median: .....

d Upper Quartile: .....

e



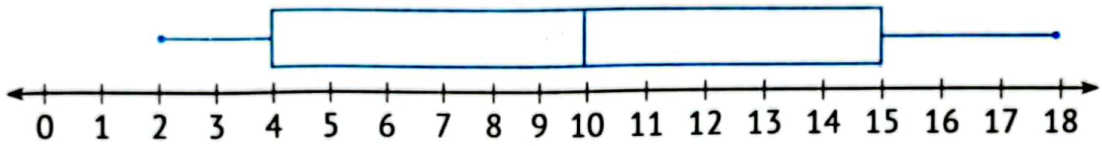
25 If the heights of 5 pupils in the first preparatory grade in centimeters are: 132 , 131 , 126 , 128 , 133 .

Calculate the mean for these heights.

.....

.....

26 Find 5- points summary using the following box plots:



(a) The Minimum Value: .....

(b) The Lower Quartile: .....

(c) The Median: .....

(d) The Upper Quartile: .....

(e) The Maximum Value: .....

27 The following table represents the temperatures recorded in a city in a week:

Day	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday
Temperature	24°	20°	30°	21°	23°	22°	21°

Using the values shown in the previous table to find:

(a) The Mean: .....

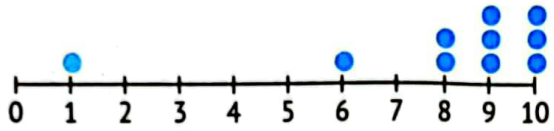
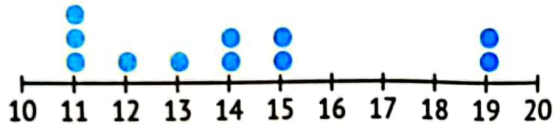
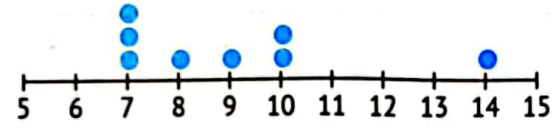
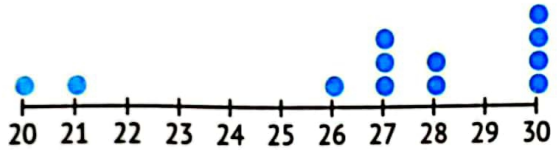
(b) The Median: .....

(c) The Mode: .....

(d) The Range: .....

(e) The Outliers: .....

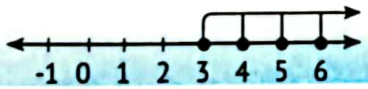
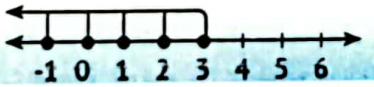
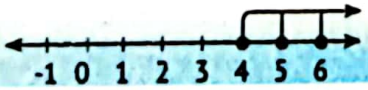
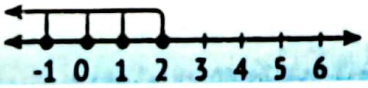
28 Complete the following table using the dot plot graph for each of the following:

	Graph	Mean	Median	Mode	Outliers
a					
b					
c					
d					

29 Match each of the following with the appropriate graph(s):

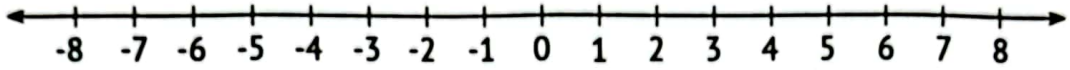
a Representation of individual values •	• Histogram 1
b Representation of hundreds of notes •	• Dot plot 2
c Representation of data clusters and gaps in the data •	• Box plot 3

30 Match each number line to the inequality it represents:

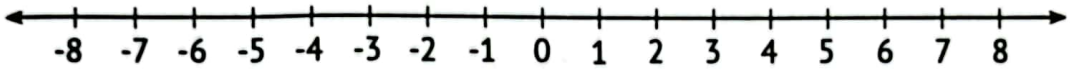
a  •	• $x < 3$ 1
b  •	• $x \geq 3$ 2
c  •	• $x > 3$ 3
d  •	• $x \leq 3$ 4

31 Use the number line to represent each of the following inequalities:

(a) $x < 5$



(b) $x \geq -2$



3 Model Exams

Model 1

First: **Choose the correct answer:**

a The GCF of 4 and 15 is ..... . (0 or 1 or 4 or 5)

b $1\frac{3}{4} + 2\frac{1}{2}$ = ... ($4\frac{1}{4}$ or $3\frac{1}{4}$ or $3\frac{4}{6}$ or 4)

c In the algebraic term " $-3xy$ ", the coefficient is ..... .

(y or x or 3 or −3)

d If we subtract 5 from x, the result is ..... .

(x + 5 or x − 5 or 5 − x or 5x)

e 3^0 = ... (3 or 0 or 1 or 3 × 0)

f A statistical question ..... .

(results in a lot of different answers or has an answer of yes or no or has one answer or results in one number)

g In each of the bar graphs and histograms, ...

(bars are used to represent data or each bar represents an interval or each bar represents one number or the data is shown above the number line)

Second: **Complete the following:**

a If 13 X 48 = 624, then 624 ÷ 13 = ...

b All prime numbers are odd numbers, except ..... is an even number.

c The algebraic factor in "2.5x" is ..... .

d Baher has "m" stickers in the sticker book, then he puts up 12 more stickers, so he has now ..... .

e The value of the expression "r^2" if (r = 9) is ..... .

(f) The inequality that represents all values greater than −1 is .....

(g) The range for the values "9, 2, 4, 1, 8, 5" is .....

(h) The types of statistical data are ..... data and ..... data.

Third: Choose the correct answer:

(a) The integer that expresses the depth of a well of 5 meters is .....

(−5 or 5 or −10 or 10)

(b) −6 in the form $\frac{a}{b}$ is .....

($-\frac{1}{6}$ or $-\frac{6}{1}$ or $\frac{1}{6}$ or $\frac{6}{1}$)

(c) The value of the expression $a^2 + 2 \times 3$ if $a = 3$ is .....

(15 or 33 or 12 or 24)

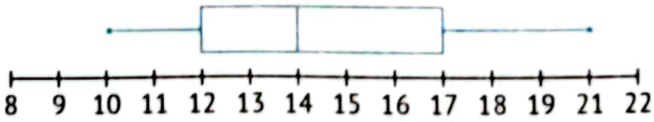
(d) The inequality that represents all values less than or equal to −1 is .....

($x > -1$ or $x < -1$ or $x \leq -1$ or $x \geq -1$)

(e) In "$u = 3 + w$", the independent variable is ..... (w or u or 3 or $\frac{w}{3}$)

(f) The mean of the values: 45, 15, 40, 70, 80 is ..... (40 or 45 or 50 or 60)

(g) The lower quartile of the values represented using the opposite box plot is .....



(10 or 12 or 14 or 17)

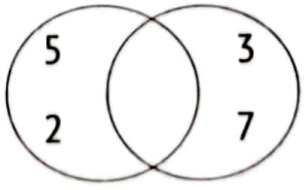
Fourth: Answer the following:

1 Find the result:

(a) 1,976 ÷ 8 = ...

(b) $9\frac{4}{5} - 3\frac{1}{2}$ = ...

2 Using the opposite Venn diagram, complete:



(a) The two numbers are ..... and .....

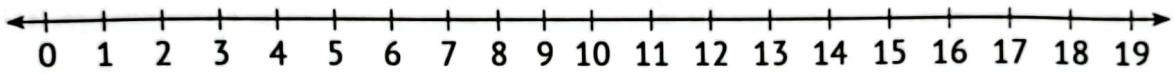
(b) The common prime factors are: .....

ⓒ The GCF is ..... ⓓ The LCM is .....

ⓔ Are the two numbers relatively prime? ..... (Yes or No)

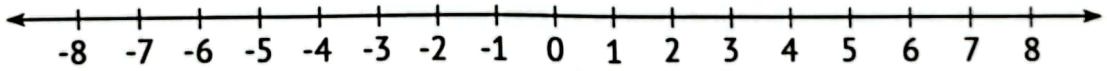
3 Draw the box plot for each of the following groups of values:

3, 8, 7, 2, 10, 12, 9, 2, 10, 9



4 Use the number line to represent the following inequality:

$x < 5$



Model 2

First: **Choose the correct answer:**

(a) The LCM of any two prime numbers is ..... .
(1 or the smallest number or their sum or their product)

(b) $6 \times (7 + 5) =$ .....
($(6 \times 7) + (6 \times 5)$ or $6 \times 7 + 5$ or $6 \times 7 \times 5$ or $(6 + 7) \times (6 + 5)$)

(c) The algebraic term "$\frac{1}{5} x$" has ..... factor(s). (1 or 2 or 3 or 4)

(d) Ahmed and Tamer have 60 pounds. If Ahmed has x pounds, then Tamer has ..... pounds. ($60 + x$ or $60 - x$ or $60x$ or $60 \div x$)

(e) $4^2 =$ ..... (4×2 or 4×4 or $4 + 2$ or $4 + 4$)

(f) ..... are categorical data.
(Dates of birth or Ages or Weights or Favorite colors)

(g) In each of the bar graphs and histograms, ...
(bars are used to represent data or each bar represents an interval
or each bar represents one number or the data is shown above the number line)

Second: **Complete the following:**

(a) If 976 = 61 X 16, then 985 ÷ 61 = 16, and the remainder is ..... .

(b) ..... is the only prime even number.

(c) The coefficient in the algebraic term "3xy" is ..... .

(d) Two numbers whose sum is 12, one of which is d, so the other number is ..... .

(e) The value of the expression $3 \times (y^2 - 5)$ if $(y = 3)$ is ..... .

(f) If $5 = | a |$, then a = ... or .....

(g) ..... data is written in the form of numbers.

(h) Range = ... - .....

Third: Choose the correct answer:

ⓐ All positive numbers ..... zero (< or > or ⩽ or =)

ⓑ | −3.7 | = ... (3.7 or −3.7 or 37 or −37)

ⓒ If a + 8 = 15, then a = ... (7 or 15 or 8 or 23)

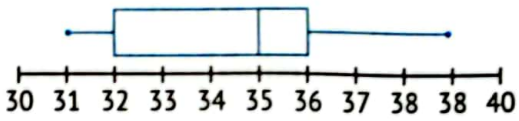
ⓓ The inequality that represents all values to the left of 5 on a number line is ..... . (x > 5 or x < 5 or x ⩽ 5 or x ⩾ 5)

ⓔ In a = 5d, the dependent variable is ..... . (5 or a or d or 5d)

ⓕ If the mean of the values: 12, 15, x, 8 is 10, then the value of "x" is ..... .

(40 or 5 or 20 or 10)

ⓖ The median of the values represented using the opposite box plot is ..... .



(31 or 32 or 35 or 36)

Fourth: Answer the following:

1 A baker prepared 696 pieces of baklava at a party.
If each tray contains 12 pieces of baklava, how many trays will be needed to prepare all the baklava?

.....

2 Bassem runs one kilometer in 20 minutes. Then, the number of kilometers that Bassem runs in "t" minutes is ..... .

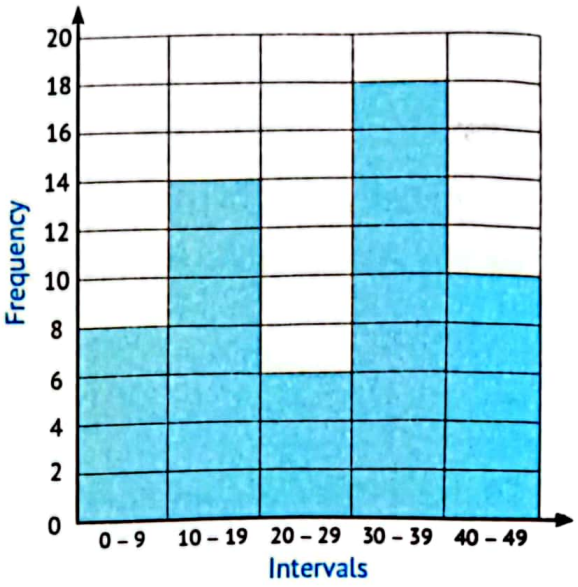
3 Hazem owns a discount card of 70 pounds. Complete:

ⓐ The equation that represents the relationship between Hazem's purchases amounted (x) pounds, and the amount to be paid after the discount (y) pounds is ..... .

ⓑ If the purchase price before the discount is 560 pounds, then the required amount is ..... .

4 Using the following histogram, complete the intervals table:

Intervals	Frequency
0 – 9	.....
10 – 19	.....
20 – 29	.....
30 – 39	.....
40 – 49	.....



Model 3

First: **Choose the correct answer:**

(a) The LCM of any two prime numbers is .....

(the smallest number or 1 or their sum or their product)

(b) $7 \times (2 + 9) =$ .....

($(7 \times 2) + (7 \times 9)$ or $7 \times 2 + 9$ or $7 \times 2 \times 9$ or $(7 + 2) \times (7 + 9)$)

(c) In the algebraic expression "3y + 9", the absolute term is .....

(9 or 3 or y or 3y)

(d) Basem is "x" years old now, how old will he be after 5 years? .....

(x – 5 or x + 5 or 5 ÷ x or 5x)

(e) $5 \times 3 + 2^2 =$ ..... (35 or 19 or 51 or 17)

(f) ..... are categorical data.

(The number of students in each class or Test scores or The number of family members or Favorite TV shows)

(g) In ....., there is a graduated scale for the vertical axis.

(the dot plots only or the bar graph only or histogram only or both of bar graph and histogram)

Second: **Complete the following:**

(a) If 2,000 ÷ 51= 39, and the remainder is 11, then 51 × 39 = ...

(b) All natural numbers are also ..... numbers and ..... numbers.

(c) The number of terms in the algebraic expression 3xy – 25 is .....

(d) The verbal form for the algebraic expression "5a + 7" is .....

(e) The algebraic expressions "2x + 3" and "2(x + 1)" are ..... expressions.
(equal or not equal)

(f) In 5^7, 5 is called ..... and 7 is called .....

(g) "What color are your eyes?" is a ..... question.

(h) The mean of the values "8, 9, 2, 7, 6, 4" is .....

Third: Choose the correct answer:

a) All negative numbers ..... zero (< or = or > or ⩽)

b) The opposite of $-\frac{3}{4}$ is ..... . ($\frac{3}{4}$ or $-\frac{4}{3}$ or $\frac{4}{3}$ or $1\frac{1}{3}$)

If Hanan saves "d" pounds daily for 5 days, then her father gives her 20 pounds, so the amount that Hanan has now is ..... .

(5 + 20d or 20 − 5d or 5d + 20 or 5 × (d + 20))

c) The graph of the inequalities $x < 4$ and $x \leqslant 4$ on a number line are similar in: ..... .

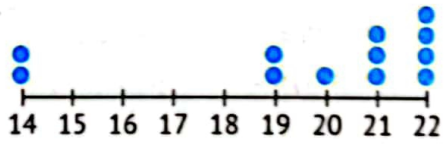
(4 belongs to both or each including all values to the left of 4 or there is a common number between them or each of them includes all the values to the right of 4)

e) In the expression "$y = \frac{1}{4}x - 2$", if $x = 32$, then $y =$ ..... . (0 or 2 or 6 or 30)

f) If the sum of 8 values equals 48, then the mean of these values is ..... .

(40 or 56 or 24 or 6)

g) The correct description that applies to the opposite graph is that the mean ..... .



(increases or decreases or remains the same)

Fourth: Answer the following:

1 Find the value of:

a) $3^b + 6 \times (b^2 - 3)$ [If $b = 2$]

= .....

= .....

= .....

b) $3 \times 2^3 \div 12$

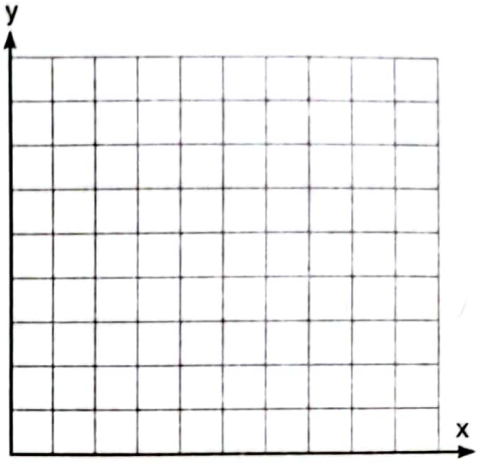
= .....

= .....

= .....

2 Omar manufactures hats; he produces 5 hats per day. Write an equation that shows the relationship between the variables x and y and then represent it graphically.

x	2	4	7	9
Y	.....	.....	.....	.....



The equation: .....

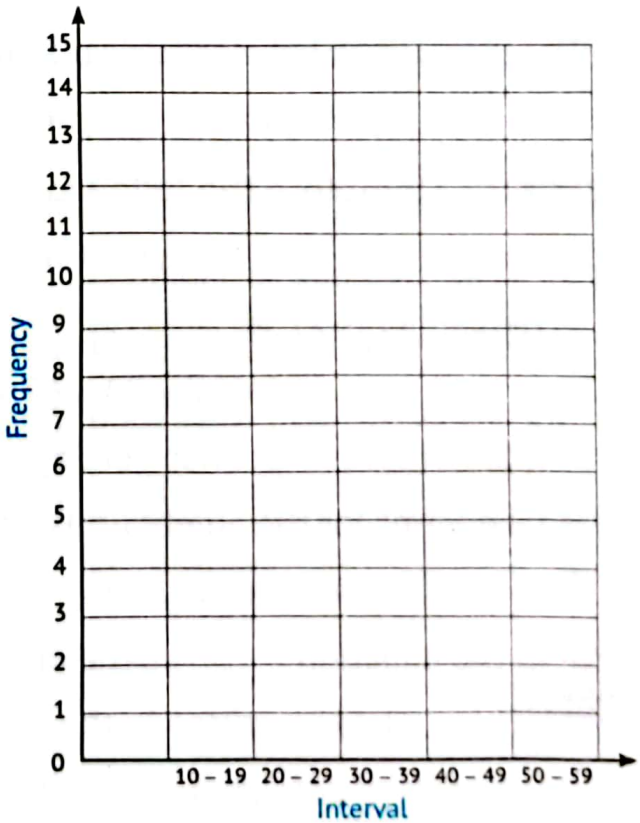
3 Arrange the following group of numbers in an **ascending** order:

$$8\ ,\ -17\ ,\ |-3|\ ,\ -9\ ,\ |12|$$

Ascending order: ..... , ... , ... , ... , ...

4 The following table shows the number of cars violating traffic lights that were detected by surveillance cameras at different time periods. Draw the histogram for this frequency distribution.

Interval in Minutes	Frequency of the Number of cars
10 – 19	6
20 – 29	7
30 – 39	15
40 – 49	8
50 – 59	12



Model 4

First: Choose the correct answer:

a If the prime factors of a number are $2 \times 2 \times 2$, then the number is .....

(8 or 4 or 6 or 222)

b The greatest common factor of any two prime numbers is .....

(the smallest number or 1 or their sum or their product)

c If the height of the school building is m meters and the height of the tree adjacent to this building is 10 meters less than it, then the height of the tree is ..... meters. ($m + 10$ or $m - 10$ or $10m$ or $\frac{m}{10}$)

d 3^0 ..... 0^3 ($<$ or $=$ or $>$ or $\leq$)

e If the price of one shirt is 120 pounds, then the price of m number of shirts is ..... ($120m$ or $120 \div m$ or $120 + m$ or $120 - m$)

f The horizontal axis includes numerical periods in .....

(dot plots or bar graphs or double bar graphs or histograms)

g ..... may be used to display numerical data.

(Dot plots or Bar graphs or Histograms or All of the previous)

Second: Complete the following:

a The number that, if divided by 35, the quotient will be 139, and the remainder is 21, is .....

b ..... $\times$ (..... + ...) = (7×2) + (7×4)

c If Salah saves z pounds per day, then he saves ..... pounds in a week.

d Like terms for the algebraic expression "$3n + 3 + 2n$" are .....

e If $7x = 35$, then the value of x is .....

f In the equation $y = x + 4$, the dependent variable is .....

g ..... data is written in the form of words.

h The types of pens preferred by the students of your class is a ..... data.

Third: Choose the correct answer:

(a) The largest non-positive integer is ..... . (–1 or 1 or –100 or 0)

(b) "0" is a/an ..... number.

(counting or natural or negative integer or odd)

(c) The inequality representing negative numbers are ..... .

($x > 0$ or $x < 0$ or $x \leq 0$ or $x \geq 0$)

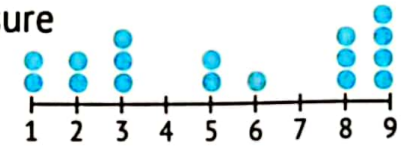
(d) The relationship that represents the equation $y = \frac{1}{3}x$ is ..... .

(divide by 3 or multiply by 3 or divide by $\frac{1}{3}$ or subtract $\frac{1}{3}$)

(e) In $y = 6x + 4$, if $x = 3$, then $y =$ ..... . (10 or 22 or 18 or 67)

(f) If the sum of a set of values is 36, and the mean of these values is 6, then the number of these values is ..... . (6 or 42 or 30 or 216)

(g) The ..... will be the best choice as a measure of the central tendency in the opposite graph.



(mean or mode or median or range)

Fourth: Answer the following:

1 Mahmoud wanted to divide 28 pens and 42 notebooks into groups so that each group contained the same number of supplies. What is the largest number of groups that can be configured for each type of supply to have the same number in each group? How many pens are in each group? What is the number of notebooks in each group?

.....

.....

.....

..... =

..... =

GCF = ...

2 15 pounds will be added for the delivery of fast food meals in a restaurant. Complete:

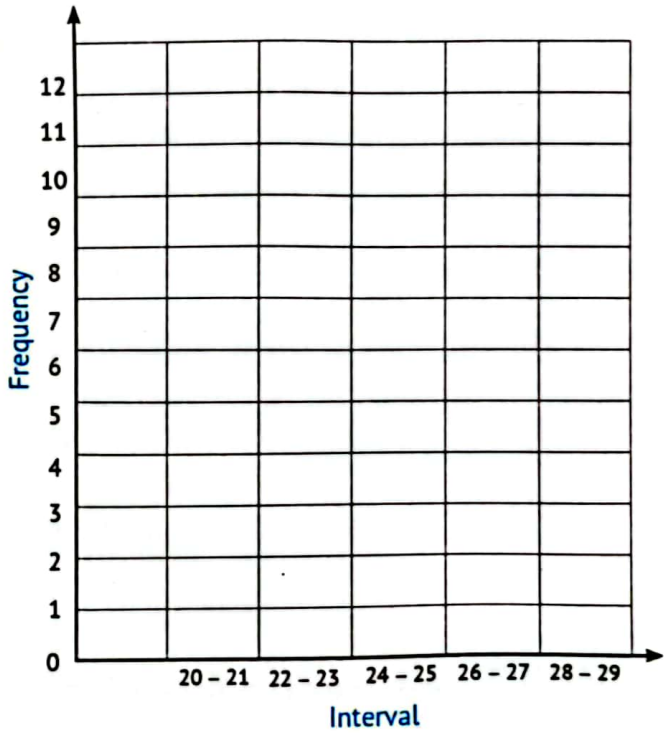
a The equation that represents the relationship between the price of meals (x) and the amount to be paid including delivery (y) is .....

.....

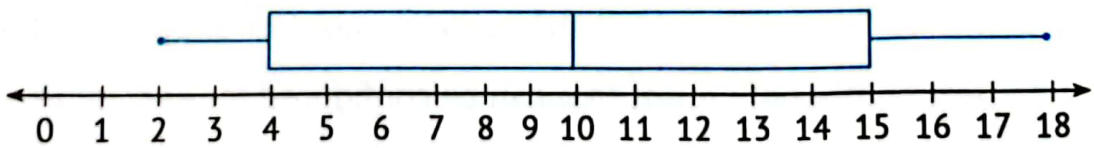
b If the price of the meals is 120 pounds, the required amount is .....

3 The following table shows the recorded temperatures in 40 cities in one day. Draw the histogram of the following frequency table.

Interval Temperatures	Frequency of Number of Cities
20 – 21	8
22 – 23	12
24 – 25	9
26 – 27	7
28 – 29	4



4 Find the 5-points summary using the following box plots:



a Minimum value: .....

b Lower quartile: .....

c Median: .....

d Upper quartile: .....

e Maximum value: .....

Model 5

First: **Choose the correct answer:**

a The prime factors of 12 are ..... . (2 × 6 or 1 × 12 or 3 × 4 or 2 × 2 × 3)

b $2\frac{3}{4}$ + ... = $5\frac{1}{2}$ ($2\frac{3}{4}$ or $2\frac{1}{2}$ or $3\frac{3}{4}$ or $3\frac{1}{2}$)

c In the algebraic expression "5b + 6", the absolute term is ..... .

(5 or 5b or 6 or b)

d The algebraic expression representing: half the difference between the number a and 7 is ..... .

($\frac{1}{2}$ a – 7 or $\frac{1}{2}$ a + 7 or $\frac{1}{2}$ (a – 7) or $\frac{1}{2}$ (a + 7))

e 3^2 ..... 2^3 (< or = or > or ≤)

f A ..... does not have a vertical axis.

(dot plot or bar graph or double bar graph or histogram)

g The best graph to represent the number of pupils whose heights range from 150 – 160 cm is a ..... .

(dot plot or bar graph or histogram or box plot)

Second: **Complete the following:**

a 5 × (3 + 6) = (..... × .....) + (..... × .....)

b The GCF of the two relatively prime numbers is ..... .

c Like terms in the algebraic expression 6x + 6y + 2x + 6 are ..... .

d If the side length of a square is s cm, then the perimeter of the square is ..... .

e 8 × 8 × 8 = $.....^3$

f If 8m = 16, then m = ...

g "Do you like the red color?" is a ..... question.

h The range cannot be found using ..... .

Third: **Choose the correct answer:**

a The largest negative integer is ..... . (−1 or 1 or −100 or 0)

b "1" is not a/an ..... .

(counting number or natural number or integer or even number)

c The graph of the inequalities $x > 3$ and $x < 3$ on a number line are similar in: ..... .

(3 doesn't belong to any of them

or both include all values to the left of 3

or there is a common number between them

or each of them includes all the values to the right of 3)

d Which of the following values is a solution to the inequality $x \geq 5$?

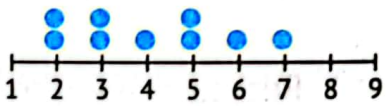
(−5 or 4.59 or −25 or 6)

e The equation that expresses "multiply by 2 and then add 5" is ..... .

($y = 5x + 2$ or $y = 2(x + 5)$ or $y = 5(x + 2)$ or $y = 2x + 5$)

f The median of the values: 4, 9, 7, 1, 1, 2 is ..... . (4 or 2 or 3 or 24)

g The outliers of the values represented using the opposite dot plot is ..... .



(2 or 7 or 3 or none)

Fourth: **Answer the following:**

1 Find the result:

a $1{,}440 \div 32 =$ .....

b $4\frac{5}{6} - 2\frac{1}{2} =$ .....

2 If the heights of five pupils in the first preparatory grade in centimeters are 132, 131, 126, 128, 133, calculate the mean for these heights.

.....

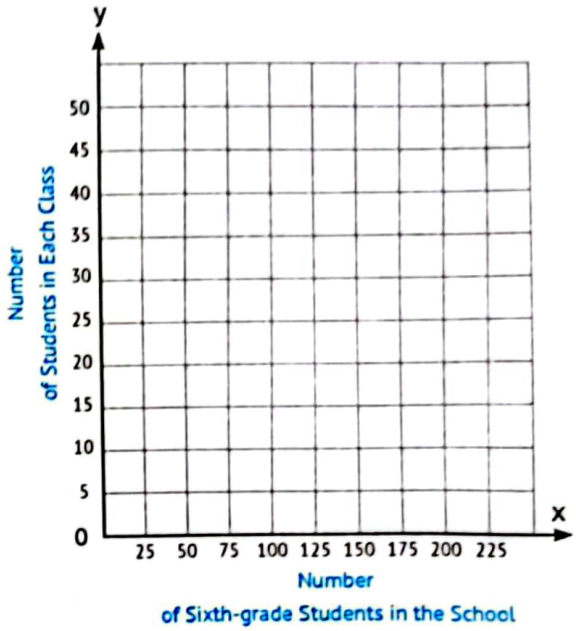
.....

3 The school has 5 classes for the sixth grade. Complete the following table, where the variable x represents the sixth-grade students in the school. Write an equation that shows the relationship between the variables x (number of sixth-grade students) and y (number of students in each class), and then represent it graphically.

x	150	175	.....	.....
Y	.....	.....	40	45

The equation

.....



4 Match each of the following situations with the appropriate graph(s):

a Representation of individual values	• Histogram 1
b Representation of hundreds of notes	• Dot Plot 2
c Representation of data clusters and gaps in the data	• Box Plot 3

Model 6

First: **Choose the correct answer:**

a The prime number ..... . (has no factors or has only one factor or has only two factors or has only three factors)

b The prime factors of 20 are ..... .(2 × 10 or 5 × 4 or 2 × 2 × 5 or 1 × 20)

c Like terms for the algebraic expression "5 + 5y + 2y" are ..... .
(5 , 5 y or 5y , 2y or 5 , 2y or 5 , 5y , 2y)

d The algebraic expression representing: subtract 3 from twice the number x is ..... . (x – 3 or 2x – 3 or 3x + 2 or 5x)

e $4^{\cdots\cdots} = 1$ (0 or 1 or 2 or 5)

f The best graph to represent the number of students absent on Sunday is ..... . (dot plots or bar graph or histogram or box plots)

g The values "5, 3, 2, 5, 2, 7" have ..... .
(no mode or one mode or two modes or three modes)

Second: **Complete the following:**

a 8 × (..... + ...) = (..... × 9) + (..... × 2)

b If 11 × 27 = 297, then 297 ÷ 27 = ...

c Integers between – 3 and 2 are ..... .

d The absolute term in the algebraic expression 5b + 3.2 is ..... .

e Six cubed = ...

f If a = 3, then a + ... = 7.

g If the price of books depends on the number of books purchased, then the independent variable is ..... .

h The median of the values "8, 2, 10, 1, 3, 7, 2" is ..... .

Third: Choose the correct answer:

(a) The opposite of 5 is ..... . (– 4 or 4 or – 6 or 6)

(b) "– 2.5" is a/an ..... .

(counting number or natural number or integer or rational number)

(c) If $y = 6$, then $\frac{y}{\ldots\ldots} = 2$. (3 or 8 or 12 or 4)

(d) Which of the following values is a solution to the inequality $x < 9$?

(10 or 9.1 or –9.5 or 9)

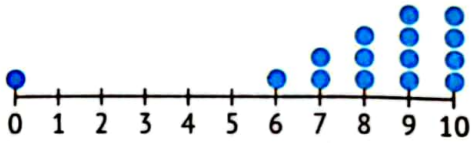
(e) The equation that expresses "subtract from 9" is ..... .

($y = x - 9$ or $y = 9 - x$ or $y - x = 9$ or $y = 9x$)

(f) ..... use separate columns to represent the data.

(Dot plots or Bar graphs or Double bar graphs or Histograms)

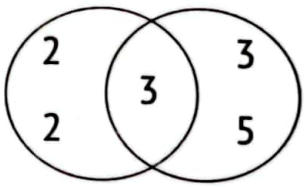
(g) The median of the values represented using the opposite dot plot is ..... .



(15 or 8 or 10 or 9)

Fourth: Answer the following:

1 Using the opposite Venn diagram, complete:



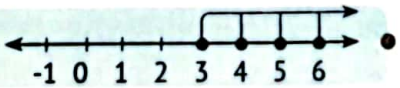
(a) The two numbers are ..... and ..... .

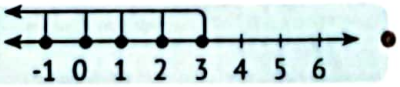
(b) The common prime factors are ..... .

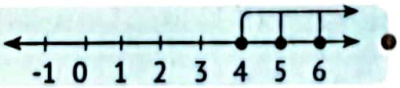
(c) The GCF is ..... . (d) The LCM is ..... .

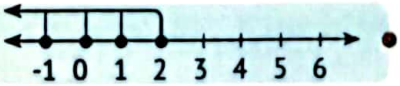
(e) Are the two numbers (relatively prime)? ..... (Yes or No)

2 Match each number line to the inequality it represents:

(a) 

(b) 

(c) 

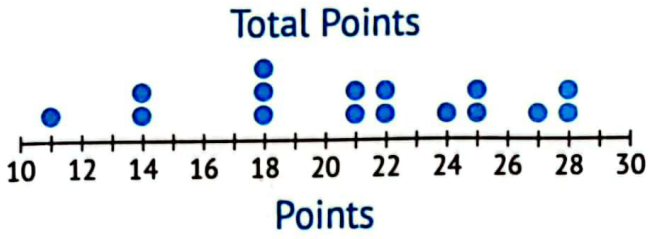
(d) 

- $x < 3$ 1
- $x \geq 3$ 2
- $x > 3$ 3
- $x \leq 3$ 4

[3] Ahmed has $5\frac{3}{4}$ and Tamer has $15\frac{1}{2}$ LE. Find out the total sum of what they have altogether.

.....

[4] The following dot plot shows the total points Jalal scored in each basketball game this season. Complete:



ⓐ Range: .....

ⓑ Mean: .....

ⓒ Median: .....

ⓓ Mode: .....

Model 7

First: **Choose the correct answer:**

a ..... is a factor of all numbers. (0 or 1 or 2 or 3)

b 0, 6, 8, 2 are ..... numbers. (even or odd or prime or counting)

c The number of terms of "5x + 3 y + 2" is ..... . (2 or 3 or 5 or 6)

d Like terms for the algebraic expression "2 + 3b + 2a" are ..... .

(2 , 3b or 2 , 2a or 3b + 2a or none)

e Ziyad saved up x pounds and his father gave him 10 pounds so that he would have ..... . (x – 10 or x + 10 or 10 x or 10 – x)

f ..... have a horizontal axis.

(Bar graphs or Double bar graphs or Histograms or All of the previous)

g If the mean of Manal and Siham's ages is 7 years, and Manal's age is 6 years, then Siham's age is ..... years. (6 or 7 or 8 or 15)

Second: **Complete the following:**

a | – 0.7 | = ...

b The LCM of the two relatively prime number is ..... .

c The smallest positive integer is ..... .

d The algebraic expression that expresses "three times b" is ..... .

e If y – 2 = 9, then y = ...

f The inequality that represents all values less than 2 is ..... .

g The number of letters of the first name of each student in the class is a ..... data.

h ..... and ..... are affected by outliers.

Third: Choose the correct answer:

a ..... is neither a positive nor a negative number. (0 or 1 or −1 or 10)

b $6 <$ ..... (−8 or 8 or −9 or −7)

c $2 \times 2 \times 2 \times 2 \times 2 =$ ..... (2^5 or 5^2 or 2×5 or $2 + 5$)

d If $5x = 40$, then x = ... (35 or 45 or 8 or 200)

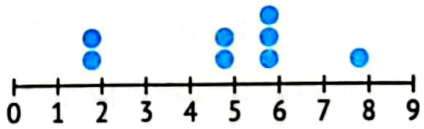
e If the dependent variable is the student's score in the exam, then the independent variable is .....

(the type of pen used in the solution or the age of the student or the number of correct answers or the number of questions in the exam)

f The range cannot be found using a .....

(dot plot or box plot or histogram or bar chart)

g The mode of the values represented using the opposite dot plot is .....



(5 or 6 or 5.5 or 8)

Fourth: Answer the following:

1 A road that is 15 km long was paved in three stages; $6\frac{2}{5}$ km was paved in the first stage, and $4\frac{1}{2}$ km was paved in the second stage. How long is the distance paved in the third stage? .....

2 Find the value of the algebraic expression in each of the following:

a $g^2 - 16 \div 8$ [If $g = 2$]

= .....

= .....

= .....

b $3^b + 6 \times (b^2 - 3)$ [If $b = 3$]

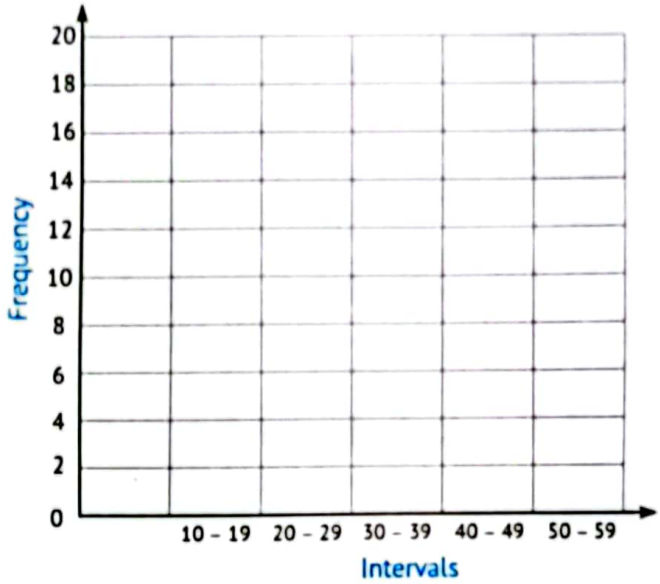
= .....

= .....

= .....

[3] Draw the histogram of the following distribution, which represents the scores of 50 students.

Intervals	Frequency
10 – 19	8
20 – 29	14
30 – 39	6
40 – 49	18
50 – 59	4



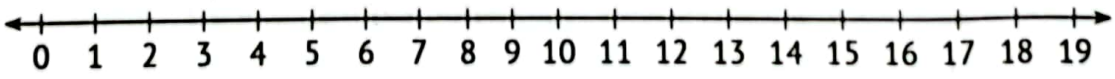
[4] Draw a box plot for the following groups of values:

5 , 8 , 2 , 7 , 9 , 9 , 2

a Lower Quartile: .....

b Median: .....

c Upper Quartile: .....



Model 8

First: Choose the correct answer:

(a) ..... ÷ 9 = 15 R 3 (135 or 138 or 132 or 27)

(b) ..... is a prime number. (55 or 11 or 22 or 33)

(c) The coefficient in the algebraic term "$\frac{3}{8}$ a" is .....

(a or 8 or 3 or $\frac{3}{8}$)

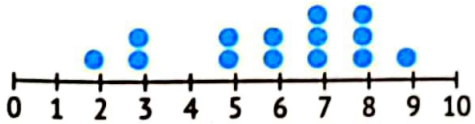
(d) The algebraic term "5ab" is formed from ..... factors.

(1 or 2 or 3 or 4)

(e) 1^5 = ... (1 × 5 or 1 + 5 or 1 or 0)

(f) If the range of a set of values is 11 and the smallest value is 7, then the largest value is ..... (4 or 18 or 77 or 70)

(g) The mean of the values represented using the opposite dot plot is .....



(14 or 6 or 7.8 or 6.5)

Second: Complete the following:

(a) ..... × (4 + 6) = (9 × .....) + (9 × .....)

(b) −5 , −4 , −3 , −2 , ... , ... , ... , ...

(c) The algebraic expression that expresses "adding z to 36" is .....

(d) The value of the algebraic expression "4 X (y^3 − 7)", if y = 3 is .....

(e) If k = 15 , then k ÷ ..... = 5.

(f) In the equation a = 3b, the dependent variable is .....

(g) If the mean of the values 3, 4, 9, x , 8 is 6, then the value of x is .....

(h) The outliers in the set of values 5, 18, 3, 4, 7, 6 are .....

Third: **Choose the correct answer:**

a The opposite of –12 is ..... . (–12 or 12 or 1 or 2)

b 25 ____ –12 (< or = or > or ⩽)

c If b = 6, then b + ... = 14. (10 or 4 or 8 or 6)

d The inequality that represents all values less than or equal to –7 is ..... .

(x > –7 or x < –7 or x ⩽ –7 or x ⩾ –7)

e If the amount of fuel consumed by the car depends on the distance traveled, then the independent variable is the ..... .

(fuel amount or distance traveled or traveled time or temperature)

f In the dot plots, ... (bars are used to represent data or there is no need for a horizontal axis or each information is represented by a point or data is displayed grouped in intervals)

g All the following are measures of the central tendency, except ..... .

(mean or median or mode or range)

Fourth: **Answer the following:**

1 A school with 795 boys and 521 girls wants to divide the boys and girls equally into 28 classes in the school. How many students will be in each class?

.....

.....

2 Using the mathematical expression "5x + 2y + 6x + 3", complete:

a The number of terms of the mathematical expression is ..... .

b Like terms are ..... .

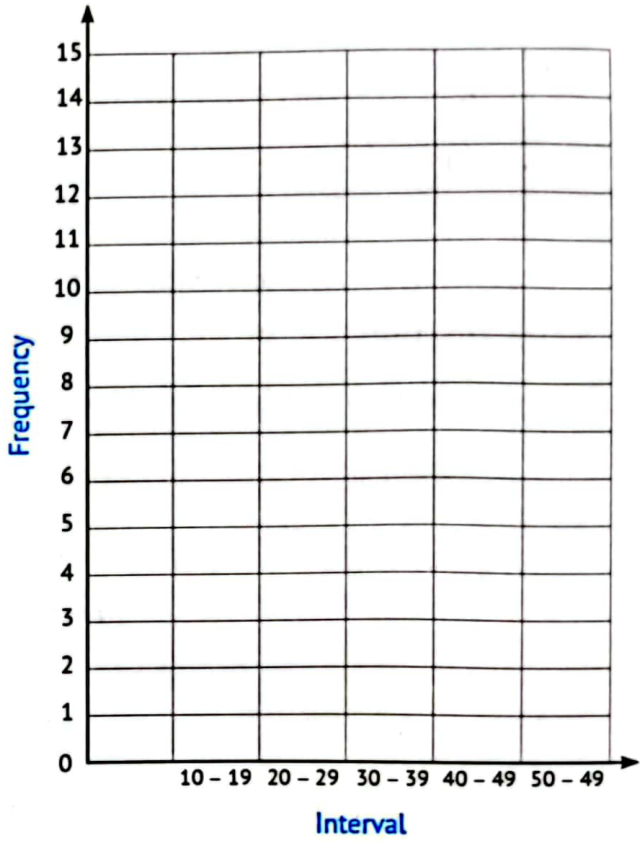
c Coefficients are ..... .

d The absolute term is ..... .

3 The following table shows the number of cars violating traffic lights that were detected by surveillance cameras at different time periods.

Draw the histogram for this frequency distribution.

Intervals	Frequency of the Number of Cars
10 – 19	6
20 – 29	7
30 – 39	15
40 – 49	8
50 – 59	12



4 The following table represents the temperatures recorded in a city in a week:

Day	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday
Temperature	22°	25°	30°	25°	23°	22°	21°

Using the values shown in the table, find:

a Mean: .....

b Median: .....

c Mode: .....

d Range: .....

Model 9

First: Choose the correct answer:

a If 574 = 41 × 14, and 580 ÷ 41 = 14, then the remainder is ..... .
(– 14 or 41 or 6 or 16)

b ..... is a multiple of all numbers. (0 or 1 or 2 or 3)

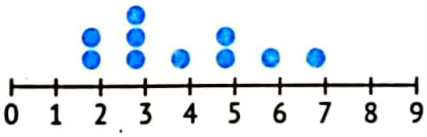
c In the algebraic term "$-3 \times y$", the coefficient is ..... . (y or x or 3 or – 3)

d If we subtract 5 from x , the result is ..... .
(x + 5 or x – 5 or 5 – x or 5x)

e 3^0 = ... (3 or 0 or 1 or 3 × 0)

f In bar graph: ..... (each bar represents a number or one categorical data
or it does not need a vertical axis or the bars must touch
or each piece of information is represented by a dot)

g The ..... will be the best choice as a measure of the central tendency in the opposite graph.



(mean or median or mode or mean and median)

Second: Complete the following:

a The additive inverse of 8 is ..... .

b The rational number $-\frac{9}{4}$ in decimal form is ..... .

c Two integers whose sum is 5 , one of which is 10, then the other number is ..... .

d Four to the power 5 = ...

e If the price of books depends on the number of books purchased, then the dependent variable is ..... .

f Using the opposite model, the equation is .....
x = ...

g Range = ... – .....

h The mode of the values "9 , 2 , 8 , 3 , 7 , 3" is ..... .

Third: **Choose the correct answer:**

a $-9 >$ ..... (-15 or 8 or -8 or 10)

b The number just after -9 is ..... (-10 or -8 or 10 or 8)

c If $a + 8 = 15$, then a = ... (7 or 15 or 8 or 23)

d The inequality that represents all values to the left of 5 on a number line is ..... ($x > 5$ or $x < 5$ or $x \leq 5$ or $x \geq 5$)

e In $a = 5d$, the dependent variable is ..... (5 or a or d or $5d$)

f ..... are categorical data.

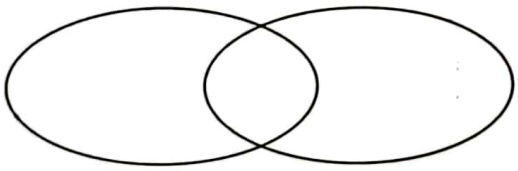
(The numbers of students in each class or Test scores or The number of family members or Favorite TV shows)

g The mean of the values: 36, 24, 28, 40, 22 is .....

(40 or 45 or 50 or 30)

Fourth: **Answer the following:**

1 Find the GCF and LCM using the Venn diagram for 24 and 16:



GCF = ...

LCM = ...

24 = ...

16 = ...

2 Diaa saves 150 pounds every month. If the amount he saves in (x) months is (y) pounds, then:

a The equation that represents this situation is .....

b The independent variable is .....

c The dependent variable is .....

(d) Diaa saves ..... in a year.

3 Draw a box plot for the following groups of values:

5 , 2 , 9 , 4 , 3 , 6 , 2

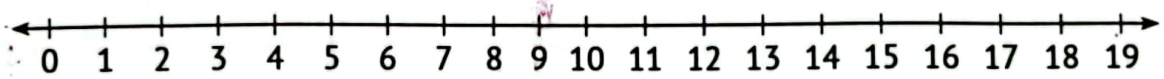
(a) Minimum value: .....

(b) Upper quartile: .....

(c) Lower quartile: .....

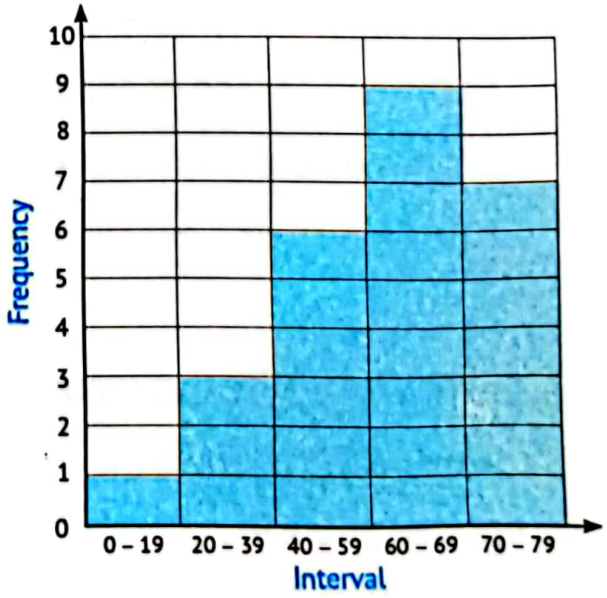
(d) Maximum value: .....

(e) Median: .....



4 Using the following histogram, complete the following interval table:

Interval	Frequency
0 – 19	.....
20 – 39	.....
40 – 59	.....
60 – 69	.....
70 – 79	.....



Model 10

First: Choose the correct answer:

(a) If $12 \times 34 = 408$, then $408 \div 12 =$ ..... (12 or 34 or 408 or 36)

(b) 6 and ..... are relatively prime numbers.

(4 or 15 or 35 or 20)

(c) The algebraic term "$\frac{1}{5} x$" has ..... factor(s). (1 or 2 or 3 or 4)

(d) Ahmed and Tamer have 60 pounds, if Ahmed has x pounds, then Tamer has ..... pounds. ($60 + x$ or $60 - x$ or $60x$ or $60 \div x$)

(e) 4^2 = ... (4×2 or 4×4 or $4 + 2$ or $4 + 4$)

(f) In the histogram, ...

(it does not need a vertical axis or the columns must touch or data is shown above the number line or all bars are evenly spaced)

(g) The median of the values: 7, 2, 4, 3, 6, 8 is ..... (4 or 6 or 5 or 10)

Second: Complete the following:

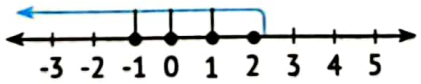
(a) $8 \times (9 + 2) = (\ldots\ldots \times 9) + (\ldots\ldots \times 2)$

(b) The number and its opposite are on ..... from zero, but on two ..... sides on the number line.

(c) The algebraic expression that expresses "5 less than x" is .....

(d) 7^3 = ... × ..... × .....

(e) The inequality that represents the opposite model is .....



(f) $4^2 \div 2^2 \times 3$ = ...

(g) The mean of the values " 5 , 6 , 4 , 5 , 8 , 2 , 5 " is .....

(h) If the range of a set of values is 20 and the smallest value is 8, then the largest value is .....

Third: Choose the correct answer:

a "– 3" is located to the right of ..... on the number line.

(–4 or 4 or –2 or 2)

b An integer between 2 and -2 is ..... (–1 or –3 or 3 or –4)

c The value of the expression $a^2 + 2 \times 3$, if $a = 5$ is .....

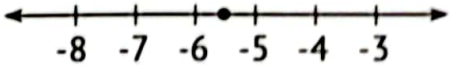
(15 or 31 or 12 or 24)

d The inequality that represents all values less than -2 is .....

($x > -2$ or $x < -2$ or $x \leq -2$ or $x \geq -2$)

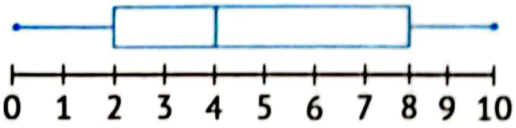
e In "$u = 3 \div w$", the independent variable is ..... (w or u or 3 or $\frac{w}{3}$)

f The rational number represented on the opposite number line is .....



($4\frac{2}{3}$ or $5\frac{2}{3}$ or $-4\frac{2}{3}$ or $-5\frac{2}{3}$)

g The range of the values represented using the opposite box plot is .....



(10 or 2 or 4 or 8)

Fourth: Answer the following:

1 A merchant has 16 kg of oranges and 24 kg of apples. If the merchant wants to divide the oranges and apples in bags of the same mass, what is the largest number of bags that can be made for each type of fruit to have the same mass? How many kilograms of oranges will each bag contain? And how many kilograms of apples will each bag contain?

.....

.....

.....

..... =

..... =

GCF = ...

2 The price of one pen is 9 pounds. Complete :

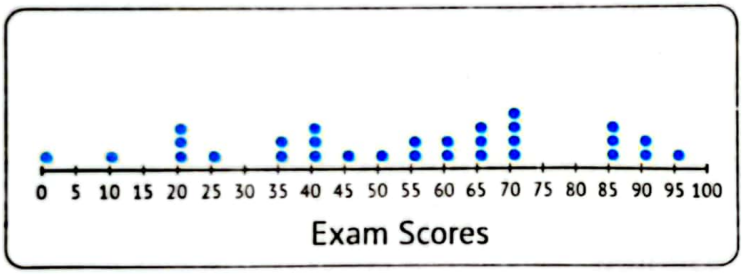
a The equation that represents the relationship between the number of pens (x) and the purchase price (y) is .....

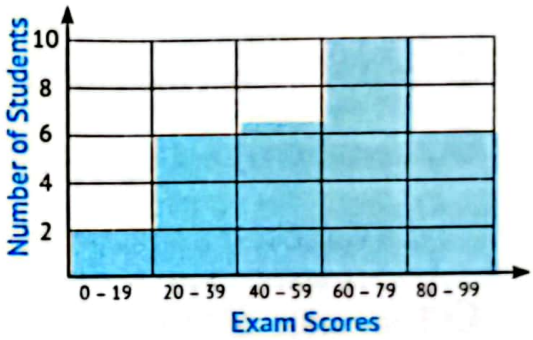
b The independent variable is .....

c The dependent variable is .....

The price of 6 pens is .....

3 The dot plot and histogram below show the exam scores for a number of students in your class?





Answer the following, explaining the best graph that helps you in the answer:

a What is the highest grade obtained by the students?

(The answer: .....) (Best Graph: .....)

b What is the lowest score obtained by the students?

(The answer: .....) (Best Graph: .....)

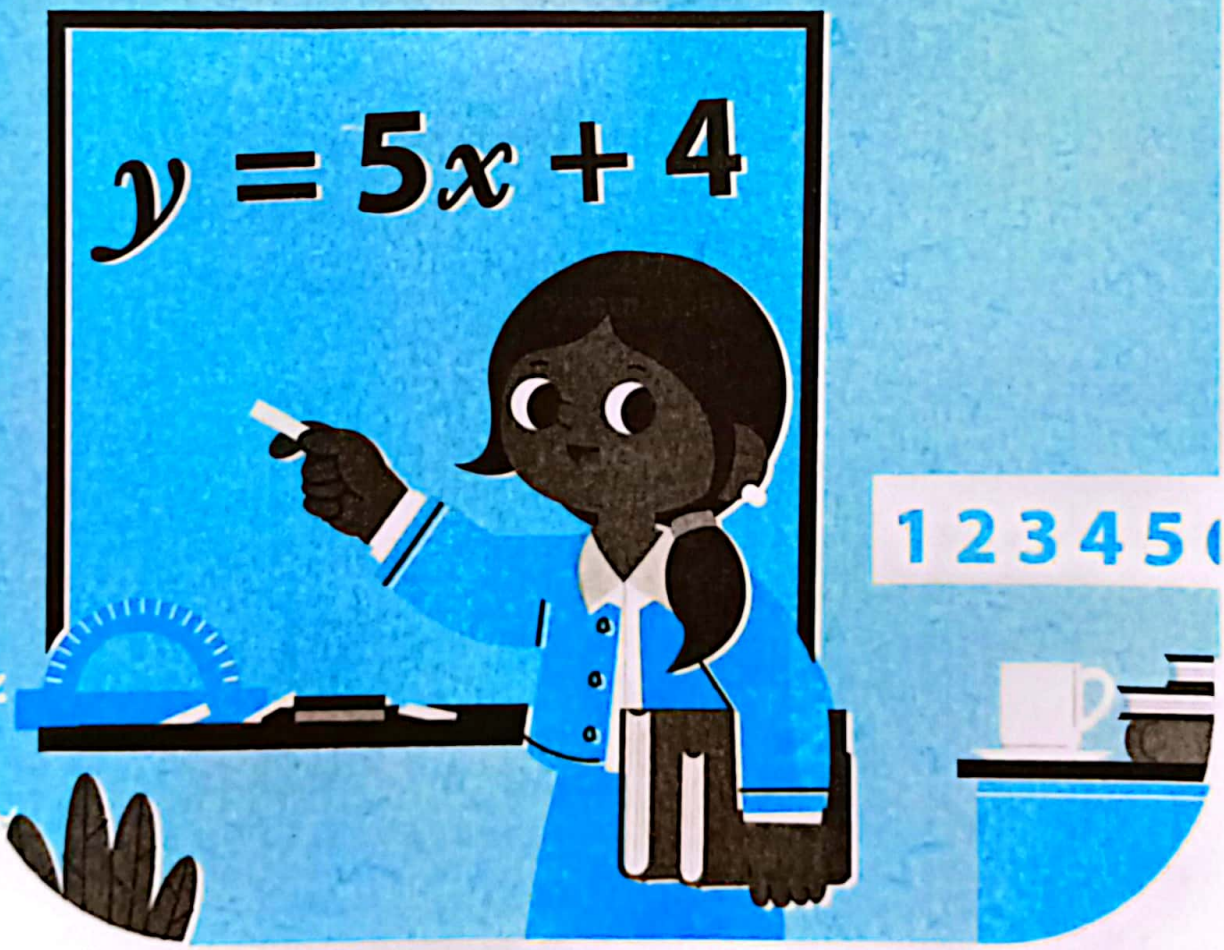
c How many students did you score on the drawing?

(The answer: .....) (Best Graph: .....)

4 Using the equation "y = 2x + 3", complete the following table:

x	2	5	9	3	4
Y	.....	.....	.....	.....	.....

Guide
Answers



4 Guide Answers Main Book

Unit 1

Lesson 1

Using Long Division in the Real world

1 (a) 157 (b) 649 (c) 1,188 r 1 (d) 1,203 r 4

2 (a) 23 (b) 1,048 r 16

3 (a) Number of hours = 9,672 ÷ 78 = 124 hours

(b) Number of total meals = 14 × 3 = 42 meals

(c) Number of total donation = 1,250 × 10

= L.E.12,500

(d) Number of cans = 6,975 ÷ 93 = 75 cans

Quiz

1 (a) 79 (b) 1235 (c) 412

2 (a) 15 × 105 = 1,575 rooms

(b) The share of each person = 24674 ÷ 26

= 949 pounds

Lesson 2

Prime Factorization

1 (a) 16 = 2 × 2 × 2 × 2

(b) 20 = 2 × 2 × 5 (c) 36 = 2 × 2 × 3 × 3

(d) 48 = 2 × 2 × 2 × 2 × 3

2 (a) 16 = 2 × 2 × 2 × 2

• 20 = 2 × 2 × 5 • GCF = 2 × 2 = 4

• LCM = 2 × 2 × 2 × 2 × 5 = 80

(b) 24 = 2 × 2 × 2 × 3

• 36 = 2 × 2 × 3 × 3 • GCF = 2 × 2 × 3 = 12

• LCM = 2 × 2 × 2 × 3 × 3 = 72

(c) 16 = 2 × 2 × 2 × 2 • 15 = 3 × 5

• GCF = 1

• LCM = 2 × 2 × 2 × 2 × 3 × 5 = 240

2 (a) 12 = 2 × 2 × 3 • 15 = 3 × 5

• GCF = 3 • LCM = 60 (No)

(b) 9 = 3 × 3 • 8 = 2 × 2 × 2

• GCF = 1 • LCM = 72 (Yes)

(c) 15 = 3 × 5 • 4 = 2 × 2

• GCF = 1 • LCM = 60 (Yes)

(d) 6 = 2 × 3 • 8 = 2 × 2 × 2

• GCF = 2 • LCM = 24 (No)

4 (a) The two numbers are 30 and 20

(b) Common prime factors are 2 , 5 and 10

(c) GCF = 10 (d) LCM = 60

(e) NO

Quiz

1 (a) 2 (b) their product (c) 1

2 (a) 16 = 2 × 2 × 2 × 2 • 24 = 2 × 2 × 2 × 3

• GCF = 2 × 2 × 2 = 8

• LCM = 2 × 2 × 2 × 2 × 3 = 48

(b) ① 10 and 9 ② none ③ 1

④ 90 ⑤ yes

Lesson 3

Writing Expressions Using GCF

1 (a) 5,3,5,6 (b) 7 , 2 , 4

(c) 9,2,8,8 (d) 9,4,6

2 (a) 6 (b) 5 (c) 8

3 GCF = 8 ⟶ 8 × (3 + 2) or (8 × 3) + (8 × 2)

Quiz

1 a) 7,5 b) 4, 6, 2, 2 c) 3 d) 1

2 a) 3 b) $4 \times (3 + 2)$

Lesson 4

Least Common Multiple Analysis

1 a) $\frac{9}{10} + \frac{5}{12} = \frac{12}{14} = \frac{7}{6} = 1\frac{1}{6}$

b) $\frac{7}{9} - \frac{3}{9} = \frac{4}{9}$

c) $2\frac{9}{24} + 1\frac{20}{24} = 3\frac{29}{24} = 4\frac{5}{24}$

d) $5\frac{16}{18} - 3\frac{9}{18} = 2\frac{7}{18}$

e) $8\frac{3}{15} + 2\frac{5}{15} = 10\frac{8}{15}$

f) $6\frac{8}{12} - 2\frac{3}{12} = 4\frac{5}{12}$

2 a) $2\frac{3}{4} + 1\frac{1}{2} + 1\frac{1}{5} = 2\frac{15}{20} + 1\frac{10}{20} + 1\frac{4}{20}$

$= 4\frac{29}{20} = 5\frac{9}{20}$ hours

b) $5\frac{1}{2} + 3\frac{3}{4} + 2 = 5\frac{2}{4} + 3\frac{3}{4} + 2 = 10\frac{5}{4}$

$= 11\frac{1}{4}$ pounds

c) $25\frac{1}{2} - 16\frac{1}{4} = 25\frac{2}{4} - 16\frac{1}{4} = 9\frac{1}{4}$ pounds

d) $4\frac{1}{2} - 3\frac{1}{4} = 4\frac{2}{4} - 3\frac{1}{4} = 1\frac{1}{4}$ hours

Quiz

1 a) $5\frac{1}{6} + 3\frac{2}{6} = 8\frac{3}{6} = 8\frac{1}{2}$

b) $9\frac{2}{4} - 2\frac{1}{4} = 7\frac{1}{4}$

c) $7\frac{3}{4} - 3\frac{2}{5} = 7\frac{15}{20} - 3\frac{8}{20} = 4\frac{7}{20}$

d) $7\frac{1}{3} + 3\frac{4}{5} = 7\frac{5}{15} + 3\frac{12}{15} = 10\frac{15}{15} = 11\frac{2}{20} = 11\frac{1}{10}$

2 a) The total mass $= 3\frac{1}{2} + 4\frac{1}{4} = 3\frac{2}{4} + 4\frac{1}{4}$

$= 7\frac{3}{4}$ kg

b) She has left $= 12 - 3\frac{1}{2} = 11\frac{2}{2} - 3\frac{1}{2}$

$= 8\frac{1}{2}$ meters

Unit 2

Lessons 1&2

Using a Number Line to Describe Data
Using a Number Line and Symbols to Compare Numbers

1 a 25 b −3 c −10 d 12 e −19 f -4

2 answer by yourself.

3 a −2 b 5 c −8 d 8 e −10 f 1
g −1 h 0

4 a < b > c < d > e > f >
g > h = i =

5 a 7 b −6 c 15 d −12 e 0 f 45

Quiz

1 a 0 b −4 c 3

2 a −7 b −4 c <

3 The order: -30, -18, 0 , 3 , 11

Lessons 3&4

Analyzing Rational Numbers Using Models
Comparing and Ordering Rational Numbers

1 Answer by yourself.

2 a $\frac{75}{100}$ b $\frac{-45}{1}$ c $\frac{4}{1}$
d $\frac{0}{8}$ or $\frac{0}{5}$ e $\frac{16}{5}$ f $-\frac{15}{10}$

3 In order from the left:
-7.25 , -5.5 , $-2\frac{1}{3}$, 2.5 , $4\frac{1}{2}$, $7\frac{3}{4}$

4 a 0.8 b $\frac{3}{4}$ c −2.5 d 0
e −0.6 f $-3\frac{1}{7}$

5 a < b < c < d <
e < f < g = h > i <

6 a ① Ascending: $-4, 0.6, 2\frac{3}{7}, 3\frac{5}{9}, 5\frac{3}{8}$

② Descending $5\frac{3}{8}, 3\frac{5}{9}, 2\frac{3}{7}, 0.6, -4$

b ① Ascending: $-\frac{1}{4}, -0.2, \frac{1}{4}, 0.3, \frac{1}{2}$

② Descending: $\frac{1}{2}, 0.3, \frac{1}{4}, -0.2, -\frac{1}{4}$

Quiz

1 a rational number b $\frac{8}{9}$ c > d −4 , -6

2 a −5.9 b −1
c rational d 0

3 The order: 7.7 , $-3\frac{1}{5}$, -3.8 , -7 , $-7\frac{1}{2}$

Lessons 5&6

Exploring the Absolute Value
Comparing Absolute Values

1 a 10 b 4 c $\frac{2}{3}$ d $\frac{4}{7}$
e 2.05 f 12.5

2 a 9 b 15 c -1.2 d 11 e 6 or -6

3 a < b > c > d >
e < f =

4 The order: −4 , −3.4 , |0.8| , 2.5 , | −5.3 |

5 a B , − 22 < −16 b A c −4.8

Quiz

1 a < b > c = d >

2 a 8 b 5 c 10 d -3

3 The order : $-\frac{1}{3}, \frac{2}{3}, 1\frac{1}{3}, \frac{9}{5}$

4 The order : $2\frac{1}{2}$, $\frac{1}{2}$, 0.2 , 0.02

Unit 3

Lessons 1&2

Creating Expressions
Analyzing Expressions

1 (a) 2, 3, m (b) 2, −5, y (c) 3, $\frac{1}{3}$, a, b
(d) 2, $-\frac{3}{7}$, n (e) 4, 6, x, y, z

2 (a) Numerical (b) Algebraic (c) Numerical
(d) Algebraic (e) Algebraic

3 (a) a / 7 / 2,4 (b) x / 5,17 / 1 (c) y / $\frac{1}{5}$, 22 / 2
(e) q , r , s / Non / 8 / Non / 0.2 , 0.6 , 0.8
(f) Non / 8 / Non

4 (a) 3 / x, $\frac{3}{8}$ x (b) 4 / m , 2 m , 3 , 2
(c) 2 / 16 x, 2 x (d) 4 / 7x, 2 x, 7x

5 (a) $\frac{1}{6}$ m (b) 7n

Quiz

1 (a) −5 (b) 5a, 2a (c) 3

2 (a) 9 + x (b) numerical expression. (c) 5

3 (a) 3 (b) 1 (c) 2

Lesson 3

Writing Algebraic Expressions

1 (a) x + 5 (b) y − 3 (c) 4a
(d) 2n (e) $\frac{m}{2}$ or $\frac{1}{2}$ m (f) $\frac{5}{t}$ or 5 + t

2 (a) ① x plus 7 ② The sum of x and 7
(b) ① x minus 3 ② x decreased by 3
(c) ① The product of x and 8 ② 8 times x
(d) ① x divided by 3 ② Third x

3 (a) 3m + 6 (b) 3a − 3 (c) $\frac{1}{2}$ y + 7
(d) 2 (b + 6) (e) 2b + 6

4 (a) Sum of triple x and 2
(b) 4 times y minus 6
(c) Third x minus 4
(d) 6 times the sum of a and 7
(e) 3 times the difference between s and 2

5 (a) 3y − 12 (b) 4c
(c) 14e + 2 (d) $\frac{d}{15}$

Quiz

1 (a) x decreased by 2
(b) The sum of 7 and 5 times a
(c) Double y subtracted from 3.6

2 (a) y-3 (b) 2 (x + 7) (c) x, −

3 (a) 4 (b) 1 (c) 2 (d) 3

Lesson 4

Order of Operations and Exponents

1 (a) 24 + 6 = 30 (b) 13 × 7 = 91
(c) [1.5 × 20] - 15 = 30 − 15 = 15
(d) 28 + [4 × 3.5] = 28 + 14 = 2

2 (a) 3 (b) 7 (c) 7 × 7 × 7 × 7 (d) 9
(e) 8 (f) 1 (g) 0 (h) 1
(i) 0 (j) 1 (k) 0

3 (a) 2 × 5 + 9 = 10 + 9 = 19
(b) 64 + 16 × 5 = 4 × 5 = 20
(c) $20 \times 9 - 5^2 \times 4 = 20 \times 9 - 25 \times 4$
$= 180 - 100 = 80$
(d) $10^2 \times 3.69 = 100 \times 3.69 = 369$

Quiz

1 (a) 27 (b) 12 (c) 24
(d) 3 (e) (32 + 3) + (8 − 1) = 35 + 7 = 5

2 (a) 4 × 4 × 4 (b) 2 (c) >
(d) 2^4 (e) 1

Lessons 5-7

Evaluating Algebraic Expressions
Applications on Algebraic Expressions
Determining Equivalent Algebraic Expressions

1 a 25a b 65b c 34x + 5 d 22 - 3y

2 a $5 \times 0.4 + 2 = 2 + 2 = 4$

b $9 \times 2 - 3^2 = 9 \times 2 - 8 = 18 - 8 = 10$

c $28 \div (5 + 2) + 7 = 28 \div 7 + 7 = 4 + 7 = 11$

d $12 \div (4^2 - 10) = 12 \div (16 - 10) = 12 \div 6 = 2$

e $23 \times 3 \div 6 = 8 \times 3 \div 6 = 24 \div 6 = 4$

f $6^2 + 3 \times (4 - 2) = 6^2 + 3 \times 2 = 36 \div 3 \times 2$
$= 12 \times 2 = 24$

3 a 30y + 100 or 100 + 30 y

b $30 \times 3 + 100 = 90 + 100 = 190$ pounds

4 Answer by yourself.

Quiz

1 a 9k b 7z c 14 d 2

2 a 2 b 3 c 1

3 a 6 b 2 c 6

Unit 4

Lesson 1

Solving Equations

1 a $4x = 8$, x = 2 b $x + 5 = 11$, x = 6

c $3x = 12$, x = 4 d $x + 3 = 7$, x = 4

2 a $x + 7 - 7 = 15 - 7$, x = 8

b $a - 6 + 6 = 5 + 6$, a = 11

c $4 + y - 4 = 6 - 4$, y = 2

d $\frac{6m}{6} = \frac{18}{6}$, m = 3

e $\frac{n}{5} \times 5 = 3 \times 5$, n = 15

f $\frac{1}{4} t \times 4 = 2 \times 4$, t = 8

Quiz

1 a $x + 2 - 2 = 11 - 2$, x = 9

b $m - 7 + 7 = 9 + 7$, m = 16

c $5y \div 5 = 45 \div 5$, y = 9

d $\frac{k}{8} \times 8 = 6 \times 8$, k = 48

2 a 18 b 6 c 9

Lessons 2&3

Exploring & Solving Inequalities

1 a $x > 4$ b $x < -3$ c $x \geq -1$

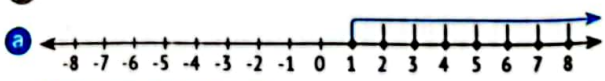
d $x \leq 5$ e $x > 7$ f $x \leq -1$

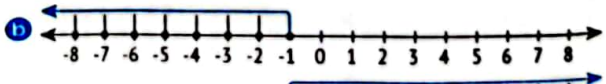
2 a are greater than –5 b are less than 1

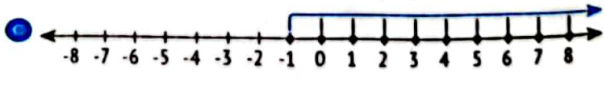
c are less than or equal –2

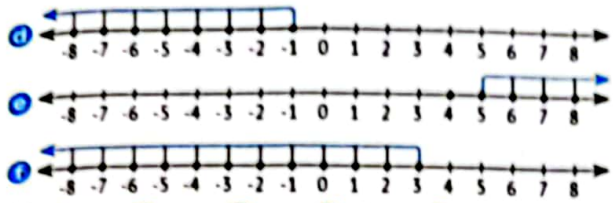
d are greater than or equal 4

3

a 

b 

c 



4 a ✗ b ✗ c ✗ d ✓ e ✓

5 a ✗ b ✓ c ✗ d ✓ e ✗

Quiz

1 a All values greater than –5

b All values less than or equal 2

2 a $x > 1$ b $x < 6$ c $x > -3$

3 a $x > 2$ b $x > -1$ c 1

Unit 5

Lessons 1&2

-The Relationship Between Dependent and Independent Variables
-Applications on Dependent and Independent Variables

1 a The number of study hours / the exam result

b level of education / The job

c The distance traveled / fuel consumption

d The number of chocolate bars / The amount paid

2

x	m	s	f
y	z	a	t

3 a $y = x + 6$

b x (Sameh) c y (Ahmed)

d $y = 12 + 6 = 18$ years

4

$y = 3x$	$y = 4x$	$y = 6x$	$y = 8x$
$3 \times 8 = 24$	$4 \times 8 = 32$	$6 \times 8 = 48$	$8 \times 8 = 64$

Quiz

1 a x / y

b the amount of electricity / the value of the electricity bill

c the number of points he gets / the number of times he hits the target.

2 a $y = 100x$

b the number of months "x"

c the total money she saved "y"

d $y = 6 \times 100 = 600$ pounds

Lesson 3

-Analyzing the Relationships Between Dependent and Independent Variables

1 a multiply by 8 b $y = x + 9$

c $y = \frac{x}{3}$ d multiply by 3 then add 7

e subtract 3 then divide by 2

2 a
- 12 , 12
- Rule: add 2
- Equation: $y = x + 2$

b
- 5 , 14
- Rule: add 5
- Equation: $y = x + 5$

c
- 12 , 5
- Rule: divide by 3
- Equation: $y = x + 3$

d
- 6 , 20
- Rule: multiply by 4
- Equation: $y = 4x$

3 a 13
- Rule: multiply by 3, then subtract 2
- Equation: $y = 3x - 2$

b 18
- Rule: divide by 3, then subtract 1
- Equation: $y = \frac{x}{3} - 1$

c 5
- Rule: multiply by 2, then add 2
- Equation: $x = 2x + 2$

d 2
- Rule: Subtract 1, then divide by 2
- Equation: $y = (x - 1) \div 2$

4 a $y = 2x$, $y = 2 \times 2.3 = 4.6$

b $y = x + 6$, $y = \frac{1}{5} + 6 = 6\frac{1}{5}$

c $y = 3x + 4$, $y = 3 \times 5 + 4 = 19$

Quiz

1 a $y = x + 8$ b $y = 3.2 - x$ c 35

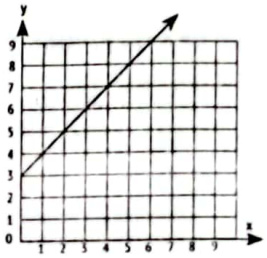
2 a $y = 4x$ b $y = 2x + 5$ c 7

3 5 , 25
- Rule: multiply by 5, then add 5
- Equation: $y = 5x + 5$

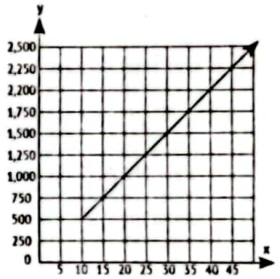
Lesson 4

Graphing Dependent and Independent Variables

1
- y: 3 , 5 , 7 , 8 , 9
- The equation is $y = x + 3$
- X axis : My number of rides
- Y axis : My friend's number of rides



2 y: 500 / 750 / 1000 / 1500 / 2250
- The equation is $y = 50x$
- X axis : The number of subscribers
- Y axis : The total value of subscriptions



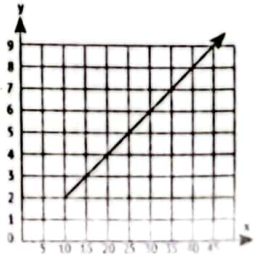
Quiz

1 a X b Y

c horizontal d Y

e The rate

2 2/ 3/ 4/ 6/ 9



Unit 6

Lesson 1

Data and Statistical Questions

1 a Statistical b Statistical
c Non-Statistical d Statistical
e Non-Statistical f Non-Statistical
g Statistical h Non-Statistical

2 a Numerical b Categorical
c Categorical d Categorical
e Numerical f Categorical
g Numerical h Numerical

Quiz

1 a Numerical/ Categorical
b Numerical/ Categorical
c numbers d adjectives or word
e Statistical

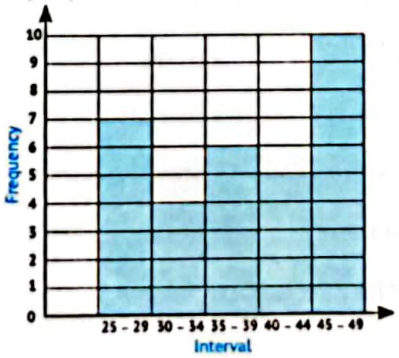
2 a Favorite colors b Salaries
c lengths d types of pets
e non-statistical

Lessons 2&3

-Exploring Histograms
-Creating Histograms to Represent Data

1 a histogram b Dot plots c bar graph
d Dot plots e histogram f bar graph

2 7 / 4 / 6 / 5 / 10



Quiz

1 a 2 b 3 c 1

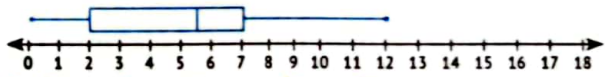
2 6 / 6 / 7 / 10 / 2

Lesson 4

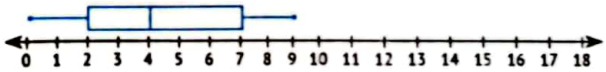
1 a order: 2 , 4 , 5 , 9 , 9 median 5
b order: 0 , 2 , 5 , 7 , 8 , 11 median (5 + 7) ÷ 2 = 6
c order: 1, 2 , 3 , 3 , 6 , 8 , 9
median 3
d order: 0 , 2 , 5 , 5 , 6 , 7 , 8 , 11
median (5 + 6) ÷ 2 = 5.5

2 a 1 b 5 c 8
d 11 e 13

3 a ①0 ②2 ③5.5 ④7 ⑤12



b ①0 ②2 ③4 ④7 ⑤9



Quiz

1 a 2 b 3 c 7
d 8 e 11

2 a 1 b 4 c 9
d 13 e 17

Lesson 5

Applications on Graphs

1 a ①13 / ✗ / ✓ / ✗ ②166 / ✗ / ✗ / ✓
③1 / ✓ / ✗ / ✗ ④1 / ✗ / ✓ / ✗
⑤2 / ✗ / ✓ / ✗ ⑥100 / ✗ / ✗ / ✓
⑦96 / ✓ / ✗ / ✗

b ① Exactly how many movies are 100 minutes long?

② How many films are their duration graphically represented?

③ What is the mediator?

Quiz

1 ⓐ 3 ⓑ 1 ⓒ 2

2 ⓐ ① how many students were absent for 5 days?

② what is the common day number of absences?

ⓑ ① what the what is the most frequency interval?

② what the what is the least frequency interval?

ⓒ ① what is the median?

② what is the first quartile?

Unit 7

Lessons 1&2

-Exploring the Balance of Data Sets
-Interpreting Mean

1 ⓐ 6 ⓑ 17 ⓒ 7 ⓓ 7

2 (8 + 9 + 12 + 7 + 3 + 9) ÷ 6 = 8

3 ⓐ (40 + 38 + 36 + 34 + 32) ÷ 5 = 36

ⓑ (25 + 12 + 3 + 18) ÷ 4 = 14.5

ⓒ (3 + 3 + 5 + 7 + 2 + 4 + 7 + 3) ÷ 8 = 4.25

ⓓ (52 + 98 + 60) ÷ 3 = 70

4 ⓐ • 7 x 6 = 42 • x + 37 = 42

• x = 42 - 37 = 5

ⓑ • Sum = 6 x 5 = 30

• x + 26 = 30 • x = 30 - 26= 4

Quiz

1 ⓐ 50 ⓑ 5 ⓒ 6

ⓓ 6 ⓔ 45

2 ⓐ 7 ⓑ 6

Lesson 3

Exploring Median: Mode and Outliers

1 ⓐ 8 ⓑ 7 ⓒ plane

ⓓ 2 ⓔ none ⓕ 12

ⓖ 10,13

2 ⓐ 19 ⓑ 2 ⓒ none

ⓓ 2,3 ⓔ none ⓕ 11

3 ⓐ decrease ⓑ increased

ⓒ stay the same ⓓ stay the same

4 ⓐ Median ⓑ Mean

ⓒ both

Quiz

1 a 2 b 6 c 7
d 23

1 a 6 b 4 c 4
d 11 e Median

Lesson 4

Exploring Range

1 a 7 b 61 c 72
d 11 e 44

2 a 19 / 10 / 9 b 10 / 1 / 9
c 18 / 9 /9 d 30 / 20 / 10

3 a 30 / 22 / 8 b 6 / 3 / 3

Quiz

1 a 14 b 12 c 13
d 12 e 2

2 a 8 b 6 c 0

2 a 8 - 1 = 7 b 4

Guide Answers Exercise Book

Exercises on Unit 1

Lesson 1

1 ⓐ 15 ⓑ 29 ⓒ 26
ⓓ 93 R 2 ⓔ 295 ⓕ 472 R2 ⓖ 705

2 ⓐ 24 ⓑ 11 ⓒ 15
ⓓ 27 R24 ⓔ 105 ⓕ 214

3 ⓐ 348 ÷ 12 = 29
ⓑ 132 ÷ 12 = 11 trays.
ⓒ 1875 ÷ 25 = 75 pounds,
75 × 36 = 2700 pounds.
ⓓ 163500 – 85500 = 78000 pounds,
78000 ÷ 24 = 3250 pounds.
ⓔ 456 + 419 = 875 students,
875 ÷ 25 = 35 students.

Assessment 1
on Lesson (1)

1 ⓐ 35 ⓑ 6048 ⓒ 4
ⓓ 1998 ⓔ 3479

2 ⓐ 43 ⓑ 27 ⓒ 1905 R3

2 ⓐ 24 × 50 = 1200 pupils
ⓑ 300 ÷ 12 = 25 rooms

Lesson 2

1 ⓐ GCF = 2 , LCM = 24
ⓑ GCF = 6 , LCM = 72
ⓒ GCF = 5 , LCM = 60
ⓓ GCF = 1 , LCM = 36

2 ⓐ prime factors 6 = 2 , 3 , 4 = 2 , 2
GCF = 2 , LCM = 12 , (NO)
ⓑ prime factors 15 = 3 , 5 , 6 = 2 , 3
GCF = 3 , LCM = 30 , (NO)
ⓒ prime factors 8 = 2 , 2 , 2 , 9 = 3 , 3
GCF = 1 , LCM = 72 , (Yes)
ⓓ prime factors 12 = 2 , 2 , 3 , 14 = 2 , 7
GCF = 2 , LCM = 84 , (NO)
ⓔ prime factors 18 = 2 , 3 , 3 , 9 = 3 , 3
GCF = 9 , LCM = 18 , (NO)
ⓕ prime factors 8 = 2 , 2 , 2 , 21 = 3 , 7
GCF = 1 , LCM = 168 , (Yes)
ⓖ prime factors 9 = 3 , 3 , 10 = 2 , 5
GCF = 1 , LCM = 90 , (Yes)
ⓗ prime factors 15 = 3 , 5 , 8 = 2 , 2 , 2
GCF = 1 , LCM = 120 , (Yes)

3 ⓐ ① 30 and 42 ② 3 , 2
③ 6 ④ 210 ⑤ (No)
ⓑ ① 24 and 16 ② 2 , 2 , 4
③ 8 ④ 48 ⑤ (No)
ⓒ ① 20 and 8 ② 2 , 2
③ 4 ④ 40 ⑤ (No)
ⓓ ① 20 and 9 ② 1
③ 1 ④ 180 ⑤ (Yes)
ⓔ ① 16 and 40 ② 2 , 2 , 2
③ 8 ④ 80 ⑤ (No)

4 ⓐ 2 ⓑ 2 ⓒ 2
ⓓ 3 ⓔ prime number
ⓕ 11 ⓖ 2, 3, 5, 7
ⓗ 3,7 ⓘ 18 ⓙ 1
ⓚ their product

5 ⓐ 1 ⓑ 59 ⓒ 30
ⓓ has only two factors ⓔ prime
ⓕ 2 × 2 × 3 ⓖ 8 ⓗ 1
ⓘ 1 ⓙ their product
ⓚ their product ⓛ 1 ⓜ 35
ⓝ 72 ⓞ 1

Assessment 2

on Lesson (2)

1 a 11, 13, 17, 19 b $2 \times 3 \times 3$
c 42 d 1 e 0

2 a 1 b their product
c 1 d 9
e 9 and 4

3 • GCF = 4 • LCM = 48

Lesson 3

1 a 7,5,7,2 b 8,2,8,9 c 8,5,3
d 3,3,7 e 2,4,5,5 f 8,7,6,6
g 7,5,1 h 2,4,3

2 • GCF = 9 no
• 18 ÷ 9 = 2 kg of oranges
• 27 ÷ 9 = 3 kg of apples

3 • GCF = 4 , 4 groups
• 3 doctors , 7 nurses

4 • 12 groups • 2 pens
• 3 notebooks

5 6 bags

6 $5 \times (5 + 3) = 5 \times 5 + 5 \times 3$

Assessment 3

on Lesson (3)

1 a $(4 \times 2) + (4 \times 9)$ b $6 \times (3 + 2)$
c 7 d 6 e 0

2 a $4 \times (4 + 3)$ b $3 \times (3 + 7)$

3 • 7 groups • 3 pens
• 5 notebooks

Lesson 4

1 a $1\frac{7}{15}$ b $14\frac{1}{6}$
c $\frac{15}{16}$ d $14\frac{9}{20}$
e $3\frac{7}{24}$ f $\frac{1}{12}$
g $\frac{13}{18}$ h $3\frac{31}{60}$
i $2\frac{8}{15}$ j $1\frac{2}{3} - 1\frac{3}{5} = \frac{1}{15}$

2 $3\frac{1}{2} + 4\frac{1}{4} = 7\frac{3}{4}$ kg

3 $9\frac{1}{2} + 5\frac{1}{4} + 4 = 18\frac{3}{4}$ pounds

4 $3\frac{3}{4} - 2\frac{1}{5} = 1\frac{11}{20}$ kg

5 $4\frac{1}{2} - 1\frac{1}{3} = 3\frac{1}{6}$ hr

6 a $\frac{1}{6} + \frac{2}{8} + \frac{1}{4} + \frac{1}{3} = 1$ pizza
b 4 – 1 = 3 pizzas

7 $15 - (4\frac{1}{2} + 6\frac{2}{5}) = 4\frac{1}{10}$ km

8 a
① $\frac{3}{4} + \frac{2}{4} + \frac{1}{4} + \frac{2}{4} + \frac{3}{4} = 2\frac{3}{4}$ package
② $4 - 2\frac{3}{4} = 1\frac{1}{4}$ package

b
① $\frac{3}{8} + \frac{2}{8} + \frac{5}{8} + \frac{7}{8} = 2\frac{1}{8}$ package
② $4 - 2\frac{1}{8} = 1\frac{7}{8}$ package

c
① $\frac{3}{8} + \frac{1}{4} = \frac{5}{8}$ package
② $2 - \frac{5}{8} = 1\frac{3}{8}$ package

Assessment 4

on Lesson (4)

1 a $1\frac{1}{2}$ b $4\frac{2}{15}$
c $2\frac{1}{8}$ d $1\frac{1}{6}$

2 a $4\frac{1}{6}$ b $\frac{5}{8}$
c $3\frac{7}{12}$

3 a $15\frac{1}{2} - (4\frac{1}{2} + 5\frac{1}{2}) = 5\frac{1}{2}$ pounds

b ① $\frac{1}{2}$ ② $\frac{7}{16}$

Exercises on Unit 2

Lessons 1&2

1 a −12 b 40 c −10
d −50 e 5 f −20
g 16 h 3 i −3
j −150

2 a −1 b −6 c 7
d −8 e −3 f 3
g 4 h 0

3 Answer by yourself.

4 The next : 11, −6, 1, −4, 10
The previous : 9, −8, −1, −6, 8

5 a < b < c >
d > e > f <
g > h < i >
j = k = l <

6 a Ascending: −6, −3, 0, 5, 8
Descending: 8, 5, 0, −3, −6
b Ascending: −350, −5, 45, 63, 120
Descending: 120, 63, 45, −5, −350
c Ascending: −3, −1, 0, 1, 3
Descending: 3, 1, 0, −1, −3

7 a 9 b 3 c 12
d −7 e −8 f −25
g 0 h 1 i −1

8 a −15 b 25 c −4
d −1 e 12 f −10
g 1 h 1 i 0
j the same distance , opposite

9 a −4 b 0 c −15
d 12 e 0 f −6
g −1 h 0 i less than
j greater than

Assessment 1

on Lessons (1&2)

1 a −5 b −1 c −8
d < e 8

2 a 6 b −2, −1, 0, 1 c −8
d 1 e −1, 0, 1, 2

3 −32, −3, 0, 2, 9

4 Draw by yourself.

Lessons 3&4

1 a ✓, ✓, ✓, ✓ b ✗, ✗, ✓, ✓
c ✗, ✓, ✓, ✓ d ✗, ✗, ✗, ✓
e ✗, ✗, ✗, ✓ f ✗, ✗, ✗, ✓
g ✓, ✓, ✓, ✓ h ✗, ✗, ✗, ✓
i ✗, ✗, ✗, ✓ j ✗, ✗, ✓, ✓

2 Draw by yourself.

3 $\frac{5}{2}, -\frac{4}{5}, \frac{5}{1}, -\frac{7}{2}, \frac{11}{4}$
$-2.5, 0.8, -5, 3\frac{1}{2}, -2\frac{3}{4}$

4 a < b < c <
d < e < f <
g < h > i >
j = k > l <

5 a Ascending : $-5.5, -1\frac{3}{5}, 2\frac{2}{3}, 3.7, 7\frac{1}{4}$
Descending : $7\frac{1}{4}, 3.7, 2\frac{2}{3}, -1\frac{3}{5}, -5.5$
b Ascending : $-0.82, -\frac{1}{2}, 0.25, \frac{1}{2}, \frac{2}{3}$
Descending : $\frac{2}{3}, \frac{1}{2}, 0.25, -\frac{1}{2}, -0.82$
c Ascending : $-5.5, -5\frac{1}{4}, -5\frac{1}{5}, 2.2, 2\frac{3}{4}$
Descending : $2\frac{3}{4}, 2.2, -5\frac{1}{5}, -5\frac{1}{4}, -5.5$

6 a rational number b even number
c natural number d $\frac{3}{4}$
e $-\frac{6}{1}$ f $-4\frac{2}{3}$
g 0.5 h >
i $-\frac{8}{4}$ j $\frac{3}{2}$

Assessment 2

on Lessons (3&4)

1 a $-4\frac{1}{2}$ b negative integer
c rational d 5 e −2 , −3

2 a −5.9 b −5 , −6
c integer , rational b $-\frac{5}{2}$
e −1.75

3 $7.7, 7\frac{1}{2}, 7, -3\frac{1}{5}, -3.8$

Lessons 5&6

1 a 5 b 15 c 6
d 45 e $\frac{7}{9}$ f $7\frac{3}{5}$
g $\frac{3}{4}$ h $7\frac{2}{3}$ i 0.03
j 0.7 k 7.04 l 6.5

2 a < b > c =
d = e = f >
g > h > i >
j < k < l >
m = n < o > p >

3 a Ascending: $-17, -9, |-3|, 8, |12|$
Descending: $|12|, 8, |-3|, -9, -17$
b Ascending: $-4.8, -2.7, |-1.5|, |6.7|, 7.3$
Descending: $7.3, |6.7|, |-1.5|, -2.7, -4.8$
c Ascending: $-\frac{3}{4}, -\frac{5}{8}, |\frac{1}{4}|, |-\frac{1}{2}|, \frac{3}{4}$
Descending: $\frac{3}{4}, |-\frac{1}{2}|, |\frac{1}{4}|, -\frac{8}{5}, -\frac{2}{4}$

4 a 5 or -5 b 7 c 9
d -5 e -4 f 18
g Moscow, < h A i -7.2

5 a ① Wael, Tamer and Mohamed
② Tariq, Sameh and Fouad
③ Fouad
④ Tariq
b Tamer, Wael, Mohamed, Fouad, Sameh, Tariq

Assessment 3
on Lessons (5&6)

1 a 1.5 b 6 c 2.7 d 0
e farther from zero

2 a 5 or –5 b 3.5 c 9
d same e 0.7

3 $0.75, |-\frac{1}{2}|, |0.25|, -\frac{1}{8}, -\frac{1}{4}$

4 a < b > c < d <

Exercises on Unit 3

Lessons 1&2

1 a ex b 2, 5, x c 2, –3, y
d 3, $\frac{1}{5}$, x,y e 2, $-\frac{2}{8}$, m f 4, 8, a,b,c
g 2, 7, r h 4, 5, x,y,z i 2, 6, n
j 3, $\frac{3}{7}$, k,m k 3, 23 a,b l 3 $\frac{1}{6}$, y,z

2 a numerical b numerical c algebraic
d numerical e algebraic f algebraic
g algebraic h algebraic i numerical
j numerical k algebraic l algebraic
m numerical n numerical o algebraic
p algebraic

3 a a, 8, 5 b x, –5, 9
c a,b, 7, 3,4
d x, 15,2.5, 6
e y, 63, 5
f r, 1.3,7, 8
g m,h, 12,-5, 0.2, –0.3
h p, c, 4,2, 3,15
i w, 2,3,0.2, 6
j q, 7,3,2.4, 2.5

4 a 1, none b 1, none
c 1, none d 1, none
e 2, 7x, 3x f 2, 8a, 5a
g 2, none h 4, 15, 3
i 4 / 36,12 / $\frac{1}{2}$ a, a j 4, 3b, 5b, 2b

5 a 12 – d b x + 3
c $\frac{1}{5}$ w d x + 10

6 a 2 b –3 c a
d 3 e 2 f 5y, 2y
g none h 9 i 5,3
j m – 10

Assessment 1

on Lessons (1&2)

1. a) x b) 3 c) 2
   d) 6x , 2x e) 3.2
2. a) none b) 5 , 3 c) 60 – x
   d) 3 e) $\frac{2}{3}$, 4
3. a) 4 b) 5x , 6x c) 5,2,6 d) 3

Lessons 3

1. a) 36 + z b) x – 5 c) a + 9
   d) 3b e) 7.5p f) y – 14
   g) h + 6 h) 9 + r i) a + 3.5
   j) $\frac{1}{2}$ q + 4 k) 2w – 7 l) 2v – 3
   m) 2 (g + 6) n) 3 (s – 2) o) 3a + 5
   p) x + 7 q) m + 12 r) x + 3
2. a) 9 more than a
   b) 6 less than b
   c) f less than 7.5
   d) 12 multiplied by y
   e) 8 divided by s
   f) k divided by r
   g) add 6 to 3 times x
   h) 2 times x less than 7
   i) half the sum of m and 3
   j) 5 times 3 less than c
3. a) x – 5 b) x + 10 c) 2 x – 3
   d) 3y – 2 e) 3 (m + 12) f) $\frac{1}{2}$ (a – 7)
   g) x + 5 h) x,+
4. a) 3 b) 1 c) 4 d) 2

Assessment 2

on Lesson (3)

1. a) the sum of 3 and the quotient of a and 5
   b) multiply m by 6 c) 3b
   d) y – 3 e) p + 4
2. a) (m + 18) ÷ 3 b) b + 1
   c) 4s d) 35 – w e) x – 120
3. $\frac{1}{15}$ t

Lesson 4

1. a) 4 b) 3 c) 3
   d) 8 e) 2^4 f) 6^3
   g) 7 × 7 h) 6 × 6 × 6 × 6 i) 10 × 10
   j) 1×1×1×1×1 k) 5 × 5 × 5 l) 2 × 2
2. a) 25 b) 27 c) 32
   d) 1 e) 1 f) 1000
   g) 0 h) 0 i) 1
   j) 1 k) 1 l) 1
3. a) 34 b) 14 c) 12
   d) 25 e) 10 f) 19
   f) 9 g) 12 h) 22
4. a) 18 b) 3 c) 24
   d) 5 e) 10
5. a) 22 b) 7 c) 20
   d) 9 e) 3 f) 3
   g) 2 h) 3 i) 215
   j) 2 k) 9 l) 74
6. a) 32 b) 5 c) 3 d) 76
7. a) 4 × 4 b) 1 c) 1
   d) 2^5 e) 5^3 f) 0
   g) 1 h) 3 × 3 × 3 × 3 i) =
   j) > k) 19 l) 800 m) 3^3
8. a) base , power b) base , power
   c) 4^2 d) 8^3 e) 6^3
   f) 7^2 g) 4^5 h) 6 , 4
   i) 4 j) 4

Assessment 3

on Lesson (4)

1. a) 3 × 3 b) 1 c) =
   d) 425 e) 2
2. a) 0 b) 1 c) 3
   d) 5 e) 8
3. a) 30 b) 9 c) 9 d) 16

Lessons 5-7

1. a) 8x b) 12y c) 7 z
   d) 50m + 15 e) 6n + 3 f) 300 – 9p
   g) 3q + 6

2 a 33 b 1 c 3.9
d 5 e 3 f 3

3 a 34 b 21 c 11
d 21 e 7 f 4
g 21 h 0

4 a 11 b 22 c 2 d 12

5 a 10 + 5h b 35 pounds

6 a 10p – 325 b 175 pounds

7 a Not equivalent b Equivalent
c Not equivalent d Equivalent
e Not equivalent

Assessment 4

on Lessons (5-7)

1 a 120m b 5d + 20 c 15 d 3
e putting the exponent in the simplest form, subtraction , multiplication, addition.

2 a 4 s b 45 c 81
d not equal e 12

3 a 5k + 6 b 26

Exercises on Unit 4

Lesson 1

1 a x + 2 = 12 , x = 10
b x + 1 = 7 , x = 6
c 3 x = 12 , x = 4
d 2 x = 12 , x = 6
e 5 x = 10 , x = 2
f x + 6 = 9 , x = 3
g x + 9 = 13 , x = 4
h 8 x = 8 , x = 1

2 a 3 b 5 c 2
d 14 e 4 f 7
g 12 h 20

3 a 5 b 11 c 2
d 9 e 4 f 3
g 5 h 3

Assessment 1

on Lesson (1)

1 a 7 b 2 c 7
d 3 e 18

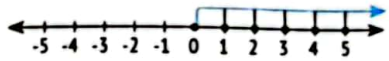
2 a 3x = 15 , x = 5
b x + 1 = 5 , x = 4

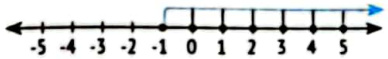
3 a 5 b 11
c 7 d 175

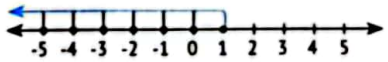
Lessons 2&3

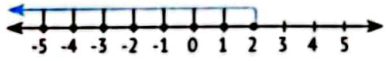
1 a x > –1 b x < 2 c x > –9
d x < 2 e x ≥ 6 f x ≤ –8
g x ≤ 4 h x ≥ –2 i x < 0
j x > 0 k x ≥ 0 l x > 0
m x ≥ 0 n x ≤ 0

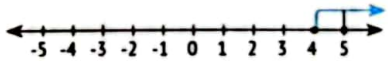
2 a more than 9 b more than –5
c less than 2 d less than –7
e less than or equal to –3
f less than or equal to 4
g more than or equal to 3
h more than or equal to 0

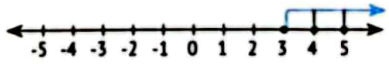
3 a 

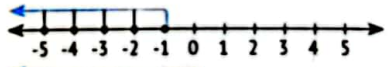
b 

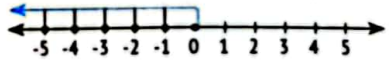
c 

d 

e 

f 

g 

h 

4 a x > –1 b x < 5 c x ≤ –7
d x ≥ 3 e x < 0 f x ≤ 0
g 3 does not belong to the solution set on and of then
h each including all values to the left of 4
i –9.5 j 6 k x ≤ 7

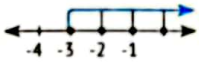
5 a ① both of them include numbers to the left of −8 on the number line.
② −8 does not belong to the solution set of the inequality " x < −8" and −8 does not belong to the solution set of the inequality" x < −8"b.
b ① −8 does not belong to the solution set of the inequality of any of them.
② x ⩾ −8 has all numbers to the right of −8 and x ⩽ −8 has all numbers to the left of −8.
c ① non algebraic.
② −8 is the solution of " x = −8" and −8 does not belong to the solution set of the inequality " x < −8".

6 a x < 3 b x > −1 c x > 2
d x > 2 e x > −6 f x < 5

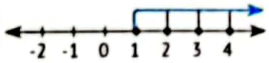
Assessment 2

on Lessons (2&3)

1 a x > −5 b less than c x > 0
d −3 e −2

2 a 

e 

c 

3 a x ⩾ −4 b x ⩽ 5 c x ⩾ 0

Exercises on Unit 5

Lessons 1&2

1 a Dependent , Independent
b Independent , Dependent
c Dependent , Independent
d Dependent , Independent
e Independent , Dependent
f Independent , Dependent
g Independent , Dependent
h Independent , Dependent
i Independent , Dependent

2 a Independent : r,s,z,x
Dependent: e,b,m,y
b Independent : a,t,p,m
Dependent: b,f,z,w

3 a y = 9x b x
c y d 54

4 a y = x + 15 b x
c y d 135

5 a y = x − 50 b x
c y d 370

6 a y = x + 3 b x
c y d 140 , 120 , 90 , 70 , 60

7 a x b a
c ① the number of books
② the price
d ① the amount of flour
② the number of baked
e what Ahmed saves each month , what Ahmed saves in a full year.

Assessment 1

on Lessons (1&2)

1 a w b a
c distance traveled
d the number of seats the theatre can accommodate.
e the number of correct answers.

2 a y = 150x b x , y c 1800

3 a y = 90x b x c y
d 3150

Lesson 3

1 a add 4 b subtract 7
c y = 5x d y = x ÷ 7
e multiply by 2 , then add 3
f divide by 2 , then add 4
g y = 2 (x + 7) h y = (x + 6) + 3
i y = 5 x −2 j y = x + 4 − 3
k subtract 2 , then multiply by 4
l subtract 9, then divide by 4

2 **a** • x = 5 R: subtract 5
• y = 7 eq: y = x – 5
b • x = 4 R: multiply by 3
• y = 18 eq: y = 3x
c • x = 6 R: multiply by 4
• y = 20 eq: y = 4x
d • x = 5 R: multiply 5 then
• y = 23 eq: y = 5 x + 3
e • x = 9 R: subtract 2 then multiply 3
• y = 12 eq: y = (x – 2) × 3
f • x = 18 R: Divide de 2 then subtract 3
• y = 4 eq: y = x + 2 – 3
g • x = 25 R: subtract 1 then divide
• y = 4 eq: y = (x – 1) ÷ 3

3 **a** y = x + 3.1 , y = 6
b y = 2x , 16
c $y = \frac{1}{3}x$, 5
d y = 8 – x , 4.5
e add 5 then multiple by 3 , 21
f subtract from 9 then multiply by 2 , 12

4 **a** y = 9 – x **b** y = 2x + 5
c y = 3 (x + 6) **d** divide by 3
e subtract 3 then divide by 2
f multiply by 5 then subtract 2
g 22 **h** 0
i y = (x + 1) × 2

Assessment 2

on Lesson (3)

1 **a** y = x + 4 **b** multiply by 5
c 18 **d** $y = \frac{1}{2}x + 5$

2 **a** y = (x + 4) ÷ 3 , x , y , 3
b y = x ÷ 2 - 1 , x , y , 3
c subtract 5 then multiply by 2 , x , y , 4
d multiply by 3 then add 4 , x , y , 4

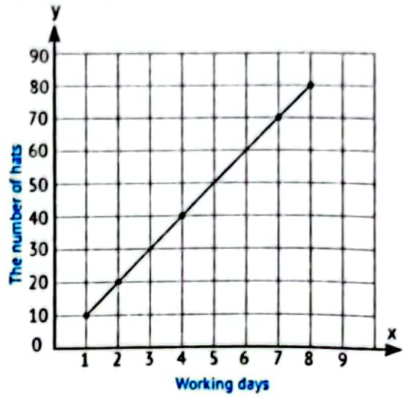
3 7 , 13 , 6 , 7 , 21 , 1 , 9 , 19 , 4

Lesson 4

1

x	1	2	4	7	9
y	10	20	40	70	90

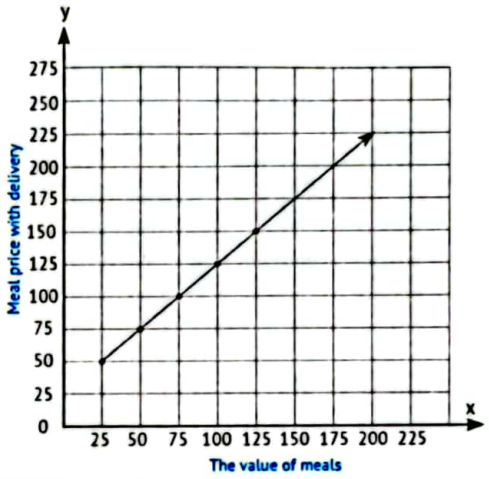
The equation y = 10x



2

x	25	50	75	100	125
y	50	75	100	125	150

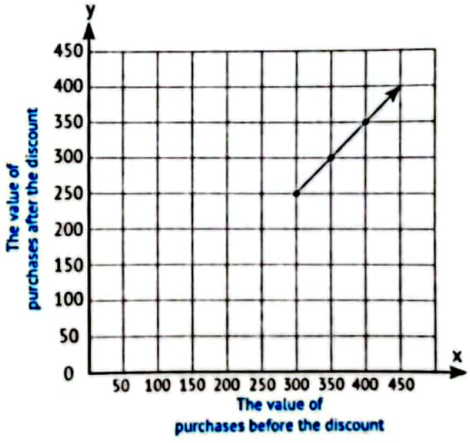
The equation y = x + 25



3

x	300	350	400	450
y	250	300	350	400

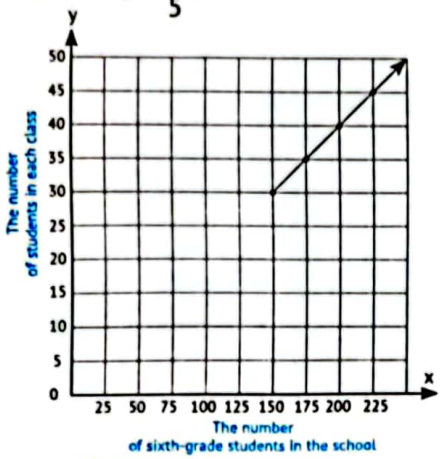
The equation y = x - 50



4

x	150	175	200	225
y	30	35	40	45

The equation $y = \frac{1}{5}x$



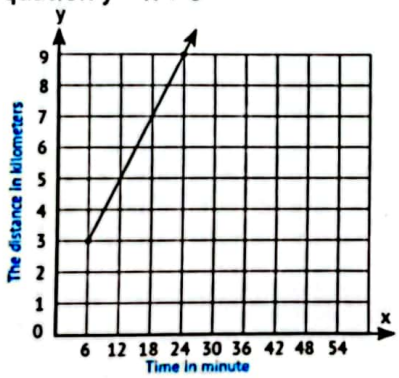
Assessment 3

on Lesson (4)

1

x	6	12	18	24
y	1	2	3	4

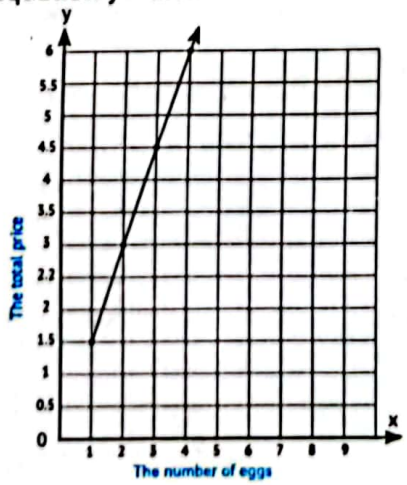
The equation $y = x + 6$



2

x	1	2	3	4
y	1.5	3	4.5	6

The equation $y = 1.5x$



Exercises on Unit 6

Lesson 1

1 a Non b Statistical
c Non d Non
e Non f Non
g Statistical h Non
i Statistical j Statistical

2 a Numerical b Categorical
c Categorical d Numerical
e Numerical f Numerical
g Categorical h Numerical
i Numerical j Categorical

3 a Categorical , Numerical
b Numerical , Categorical
c Numerical d Categorical
e Non-statistical , Statistical
f Non-statistical , Statistical
g Numerical h Numerical
i Categorical j Categorical/numerical

4 a result in a lot of different answer
b favorite color
c favorite TV show
d ages e salaries
f weights g heights
h names i types of pets

Assessment 1

on Lesson (1)

1 a numbers b words
c non statistical d statistical
e categorical

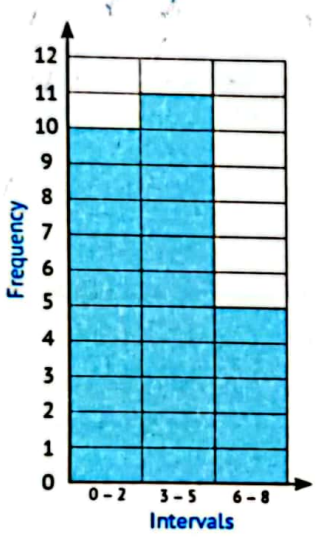
2 a Non-statistical b Categorical
c Non-statistical d Categorical
e Non-statistical f Numerical
g Numerical h Non-statistical

Lessons 2&3

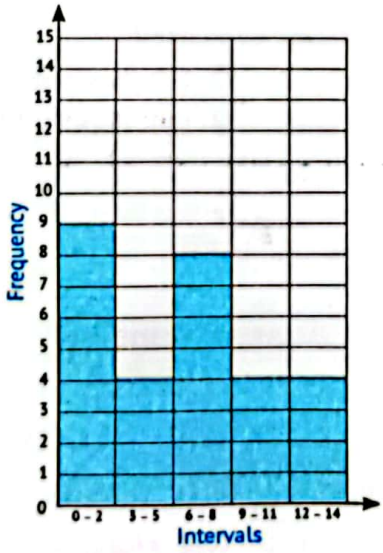
1. (a) bar graph (b) histogram
   (c) bar graph (d) dot plots
   (e) histogram (f) histogram
   (g) bar graph (h) dot plots
   (i) dot plots (j) histogram
   (k) histogram

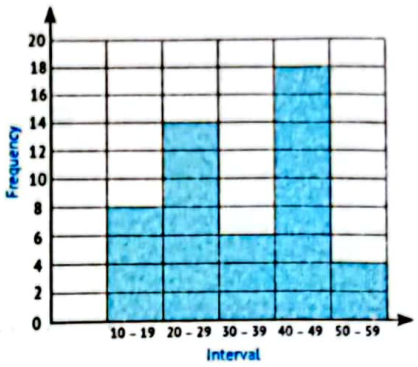
2. 8,14,6,18,10

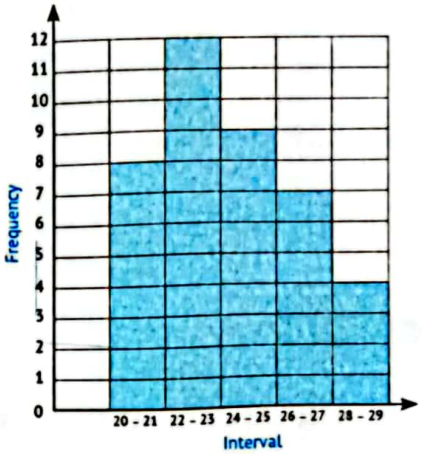
3. 10 ,11,5

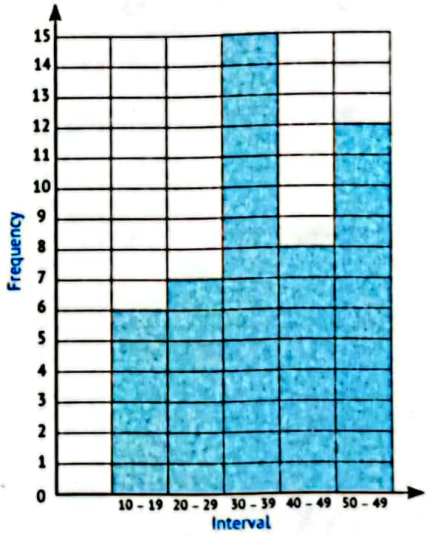


4. 9 , 4 , 8 , 4 , 4



5. 

6. 

7. 

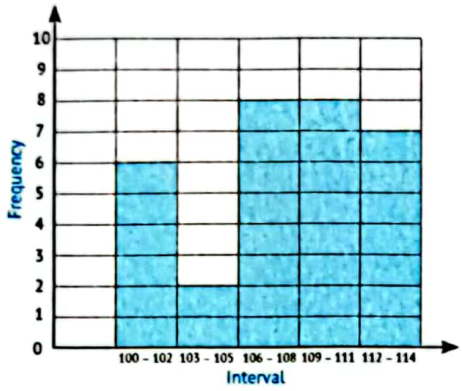
8. (a) histogram (b) dot plots
   (c) bar graph (d) all
   (e) each information is represent by a point
   (f) each bar represent a number or one categorical,
   (g) the bars must touch
   (h) bars are used to represent data
   (i) both of bar graph and histogram
   (j) all

Assessment 2

on Lessons (2&3)

1 a histogram b bar graph c all
d can display numerical and categorical data

2 6 , 2 , 8 , 8 , 7

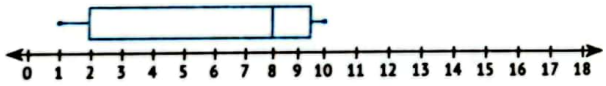


Lesson 4

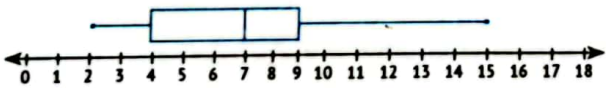
1 a the central tendency b 6 c 6
d 3 e 6 f 2,7

2 a ① 2 ② 4 ③ 10 ④ 15 ⑤ 18
b ① 1 ② 3 ③ 12 ④ 14 ⑤ 16
c ① 4 ② 5 ③ 7 ④ 13 ⑤ 15

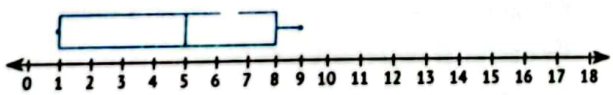
3 a ① 1 ② 2 ③ 8 ④ 9.5 ⑤ 10



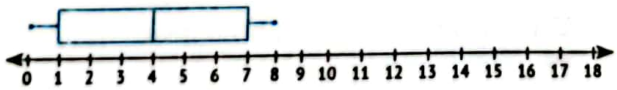
b ① 2 ② 4 ③ 7 ④ 9 ⑤ 15



c ① 1 ② 1 ③ 5 ④ 8 ⑤ 9



d ① 0 ② 1 ③ 4 ④ 7 ⑤ 8



Assessment 3

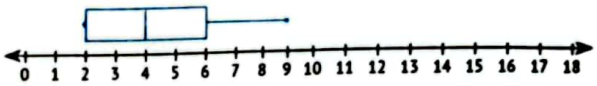
on Lesson (4)

1 a 8 b 4 c 1
d 8 e 3 , 8

2 ① 2 ② 4 ③ 7
④ 9 ⑤ 10

3 ① 2 ② 6 ③ 10
④ 13 ⑤ 16

4 ① 2 ② 2 ③ 4
④ 6 ⑤ 9



Lesson 5

1 a ② b ③ c ①

2 a box plot b box plot
c box plot d box plot
e box plots f dot plots
g dot plots h dot plots
i dot plots j histogram
k histogram l dot plots
m dot plots n box plots
o histogram

3 a ① 5 , box plot ② 140 , box plots
③ 0 , histogram ④ 300 , box plot
⑤ 4, histogram
b ① , ② answer by yourself

4 a ① 4 , dot plots ② 152 , box plots
③ 140 , both ④ 159 , both
⑤ 7 , dot plots
b answer by yourself

5 histogram

Assessment 4

on Lesson (5)

1 a ② b ③ c ①

2 a 95, dot plots b 0 , dot plots
c 30 , dot plot d 8 , histogram
e 6 , histogram

Exercises on Unit 7

Lessons 1&2

1 a 5 b 13 c 6 d 7
e 15 f 8 g 15 h 6
i 16 j 24

2 a 5 b 5.5 c 4 d 3
e 3 f 50

3 126 4 92 5 24

6 2 7 3

8 a 23.25 b 4 c 10 d 1
e 8 f 9 g 48

9 a 7 b 4 c 24
d 5 e 100 f 6

Assessment 1

on Lessons (1&2)

1 a 8 b 3.5 c 6
d 75 e 17

2 a 5 b 15

3 $6\frac{2}{5} = 6.4$

4 41,000

Lesson 3

1 a 6 b 5,9 c non
d 9 e 12 f non
g 1 h non i 3,6
j non

2 a 28 b 2 c 200
d 4 e non f non
g 50,51 h 219,220 i non
j non

3 a stay the same b increase
c decrease d stay the same
e increase f decrease

4 a both b median c mean
d mean e both f mean

5 a 8 , 9 , 9and10 , 1
b 14 , 14 , 11 , non
c 9 , 8.5 , 7 , 14
d 27 , 27.5 , 30 , 20and21

6 a the most common value b 2
c 25 d more than e decrease
f affected g not affected h median
i mean

Assessment 2

on Lesson (3)

1 a 3 b pen c 6
d mean e mean

2 a two modes b decreases
c both mean and median

3 a 17 b 17
c 16 d 10

Lesson 4

1 a 32 b 34 c 5
d 7 e 58 f 7
g 51

2 a 19,11,8 b 9,2,7 c 21,10,11
d 28,21,7 e 22,11,11 f 39,31,8

3 a 20,11,9 b 10,0,10 c 21,10,11
d 30,20,10 e 23,12,11 f 38,31,7

4 a 11,18,7 b 85,200,115
c 1,200 , 3,600 , 2,400
d 215 , 280 , 65

5 a maxmum - mimimum
b box plots or dot plots
c histogram d 8 e 12
f 17 g 27 h affected
i largest and smallest values
j dispersion

Assessment 3

on Lesson (4)

1 a range b 6 c 21
d largest and smallest value

2 a 12 b 18 c range
d histogram

3 a 11 b 28 c 17
d 21 e 21.5 f 18

Assessments on Units

Assessment on Unit 1

First

(a) 34 (b) 6 (c) 131
(d) 1 (e) prime (f) 1
(g) their product
(h) $(6 \times 7) + (6 \times 5)$ (i) $2 \times (8 + 3)$
(j) $4\frac{1}{4}$

Second

(a) 1044 (b) 351 (c) 2
(d) 2 (e) 2 (f) 1
(g) their product (h) $(8 \times 2) + (8 \times 7)$
(i) $2\frac{3}{10}$

Third

1 (a) 725 R2 (b) 108
(c) $8\frac{5}{24}$ (d) $3\frac{13}{20}$
2 840 ÷ 15 = 56 buildings
3 GCF = 8 , LCM = 48
4 (a) 8 , 15 (b) none (c) 1
(d) 120 (e) yes
5 • GCF = 6
• 3 red roses • 2 white roses
6 $25 - (9\frac{1}{2} + 5\frac{1}{4}) = 10\frac{1}{4}$ pounds

Assessment on Unit 2

First

(a) −8 (b) 0 (c) 0
(d) rational number (e) natural number
(f) $\frac{2}{3}$ (g) $-\frac{3}{10}$ (h) −3.4
(i) 3.7 (j) 0

Second

(a) -7 (b) 0 (c) −11.5
(d) 1 (e) same , opposite
(f) −7 , −8 (g) integer , rational
(h) − 1.5 (i) 8 , −8 (j) 5.6

Third

① (a) < (b) < (c) = (d) <
② $|0.8|, 0.55, |-\frac{1}{2}|, -\frac{1}{4}, -\frac{3}{5}$

Accumulative Assessments 1 on Units 1-2

First

(a) 6 (b) 72 (c) $2 \times 2 \times 5$
(d) < (e) <

Second

(a) $(6 \times 7) + (6 \times 5)$ (b) −2
(c) −10 (d) −20 (e) 7 , −7

Third

(a) 2825 ÷ 25 = 113 pounds
(b) GCF = 9 , 9 plants

Accumulative Assessments 2 on Units 1-2

First

(a) $-4\frac{2}{3}$ (b) 35 (c) −7
(d) > (e) −5

Second

(a) 0 (b) −1.25 (c) $2 \times (8 + 6)$
(d) 42 (e) $5\frac{3}{10}$

Third

1 (a) $7\frac{19}{24}$ (b) $2\frac{3}{4}$

2 (a) 24 , 90 (b) 6 (c) 360

Assessment on Unit 3

First

(a) 3 (b) 3 (c) 2
(d) 2y – 3 (e) 25 – h (f) 5^3
(g) = (h) 15 b (i) 2
(j) first choice

Second

(a) s – 10 (b) 7 (c) 3n , 2n
(d) 2 (w – 5) (e) subtract 5 from 3 times x
(f) 6 n (g) 80 (h) 3^6
(i) 0 (j) 1

Third

1 (a) 9n + 20
(b) ① 2 ② 9 ③ 20

2 not equivalent

Accumulative Assessments 2 on Units 1-3

First

(a) 138 (b) 12 (c) 2
(d) x – 9 (e) 1

Second

(a) 1989 (b) 3.2 (c) 30
(d) 7 z (e) 4^2

Third

(a) 5 (b) $0.8, \frac{1}{2}, |-0.25|, -\frac{1}{5}, -\frac{3}{4}$
(c) $\frac{t}{15}$ or $\frac{1}{15}t$

Accumulative Assessments 2 on Units 1-3

First

(a) 36 (b) a (c) 3.7
(d) 2^3 (e) 2^4

Second

(a) 2 (b) 1 (c) 2
(d) 8x
(e) add 4 to 3 times b

Third

1 (a) 34 (b) 2

2 $3\frac{3}{4} - 2\frac{1}{5} = 1\frac{11}{20}$ kg

Assessment on Unit 4

First

(a) 4 (b) 4 (c) 8
(d) 3 (e) x > 4 (f) x ≤ –2
(g) x < 0 (h) –7
(i) x < 4 (j) the second graph

Second

(a) 2 (b) 5 (c) 4
(d) 6 (e) 12 (f) 3x = 15
(g) x < –6 (h) x ≥ 3 (i) x > 0
(j) 9 belongs to both

Third

1 (a) 9 (b) 6

2 (a) x > 1 or x ≥ –2 (b) x ≤ –3 or x < –2

Accumulative Assessments ❶ on Units 1-4

First

ⓐ 1 ⓑ −4 ⓒ −5
ⓓ 9 ⓔ 0

Second

ⓐ 2 ⓑ 7 ⓒ y − 3
ⓓ 2 ⓔ x ⩾ −8

Third

ⓐ x + 2 = 9 , x = 7
ⓑ 3x = 12 , x = 4

Accumulative Assessments ❷ on Units 1-4

First

ⓐ their product ⓑ −8 ⓒ 2
ⓓ x + 5 ⓔ 8

Second

ⓐ their product
ⓑ 8 x (9 + 2) = (8 x 9) + (8 x 2)
ⓒ 3 ⓓ 1 ⓔ x < −6

Third

❶ (604 + 521) + 25 = 45 students
❷ ⓐ 12 ⓑ 8

Assessment on Unit 5

First

ⓐ b ⓑ r
ⓒ exam result
ⓓ the number of days you go to the club
ⓔ y = 6 − x ⓕ y = 2 (x + 5)
ⓖ subtract 8 then divide by 3
ⓗ 8 ⓘ 18 ⓙ 32

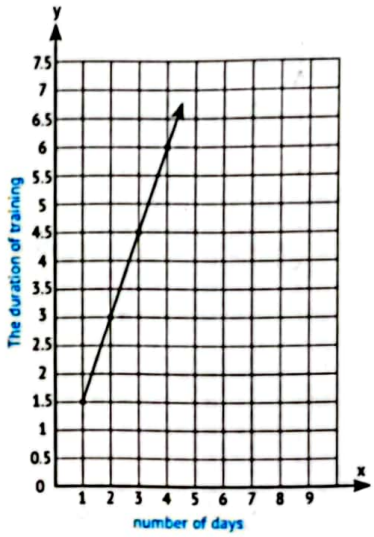
Second

ⓐ a
ⓑ ① size of garage ② number of cars
ⓒ What Ahmed saves in all week , what Ahmed saves everyday
ⓓ ① y = x + 2.4 , ② 6.4
ⓔ ① y = x + 4 , ② 4
ⓕ ① add 15 then divide by 4 , ② 5

Third

x	1	2	3	4
y	1.5	3	4.5	6

• The equation
y = 1.5 x



Accumulative Assessments ❶ on Units 1-5

First

ⓐ 1 ⓑ 0 ⓒ −3
ⓓ 4s ⓔ 3

Second

ⓐ 8 ⓑ 21 ⓒ 10
ⓓ x < 2 ⓔ multiply by 5

Third

❶ ⓐ y = 150x ⓑ x ⓒ y
ⓓ 1800 pounds
❷ 5950 ÷ 17 = 350 cups

Accumulative Assessments ②
on Units 1-5

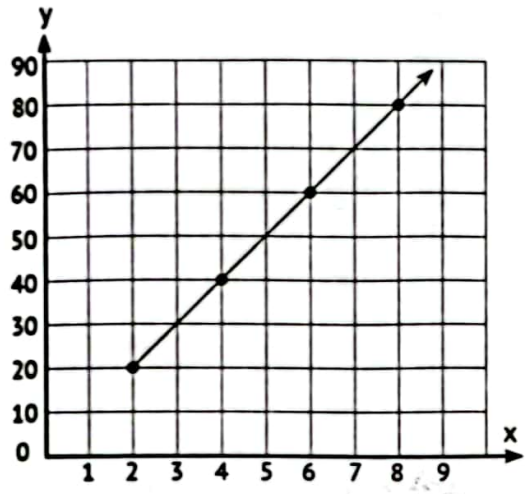
First

ⓐ 15 ⓑ −1 ⓒ (m + 18) + 3
ⓓ 3 × 3 × 3 × 3 ⓔ 3

Second

ⓐ 2 , 3 , 5 , 7 ⓑ 9 , 3 , 6 ⓒ −2 , −1 , 0 , 1
ⓓ same ⓔ 12

Third



- The equation is y = 10 x

Assessment on
Unit 6

First

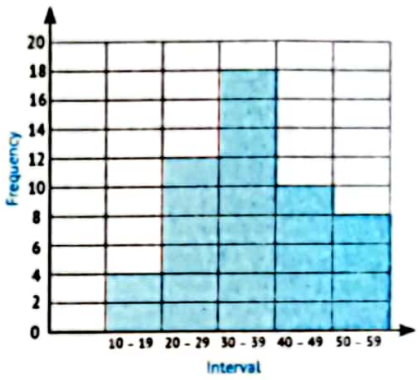
ⓐ It results in a lot of different answers
ⓑ favorite colors ⓒ ages ⓓ weight
ⓔ names ⓕ histogram ⓖ dot plot
ⓗ both bar graph and histogram
ⓘ 8 ⓙ 8

Second

ⓐ statistical , non statistical
ⓑ numerical , categorical
ⓒ numerical ⓓ numerical
ⓔ histogram ⓕ bar graph
ⓖ 7 ⓗ 1
ⓘ dot plot ⓙ histogram

Third

❶



❷ • order: 2 , 2 , 3 , 7 , 8 , 9 , 9 , 10 , 10 , 12
• Min: 2 • Max: 12 • Median: 8.5
• Upper: 10 • Lower: 3 , (Draw by your self)

❸ ⓐ ① 3, dot plots ② 52 , both
③ 2 , dot plots ④ 1 , dot plots
⑤ 9 , dot plots
ⓑ Dot plots
① How many students weight 50 kg?
② How many students weight less than 40 kg?
• Box plots
① What is the upper quartile?
② What is the lower quartile?

Accumulative Assessments ①
on Units 1-6

First

ⓐ 1 ⓑ 0 ⓒ rational
ⓓ 3 ⓔ x ⩽ −7

Second

ⓐ 6 , 4 ⓑ 65 b ⓒ 7
ⓓ x > 0 ⓔ x > 1 or x ⩾ 2

Third

1 a 2 b 10 c 6
d 8 e 3
2 a 34 b 29

Accumulative Assessments 2 on Units 1–6

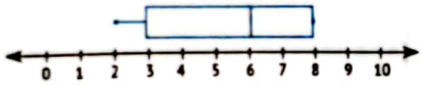
First

a 11 b $-\frac{8}{4}$ c 2
d $\frac{1}{2}(a-7)$ e >

Second

a non statistical b 6 c 2
d 1 e 3b , 2b

Third

a 3556 ÷ 14 = 254 microbuses
b 

Assessment on Unit 7

First

a 63 b 6 c median
d histogram e range f decrease
g both of mean and median h 15
i 3 j 7

Second

a 5 b 3,5 c 14
d 18 e mean , range

Third

1 a 24 b 24 c 24
d 10 e 29
2 a 25 b 25 c 25
d 8 e 30

Accumulative Assessments 1 on Units 1–7

First

a 1 b $4\frac{1}{4}$
c −2 , −3 d 2 (x + 7)
e Bar graph

Second

a 11 b −5.9 c x
d x > −1 e z , m

Third

1 a 21 b 10
c 14 d 11
2 a 10 b 2 c 6
d 6 e 8

Accumulative Assessments 2 on Units 1–7

First

a 2 × (8 + 3) b even number c 19
d 6 e Favorite colors

Second

a 2 b −15 c 5 , −5
d 3 e words

Third

• 8 , 14 , 6 , 18 , 10

Final Revision

First

1. 27
2. 6
3. 157
4. 1
5. has only 2 factors
6. $2 \times 2 \times 3$
7. 8
8. their product
9. their product
10. 1
11. 35
12. 0
13. 11
14. even
15. $2 \times 2 \times 5$
16. 18
17. 1
18. their product
19. their product
20. 40
21. 1
22. 35
23. 25
24. 210
25. 1
26. $(6 \times 7) + (6 \times 5)$
27. $4 \times (9 + 3)$
28. 4
29. -4
30. -2
31. -15
32. 12
33. 0
34. -6
35. -1
36. 0
37. $<$
38. $>$
39. -5
40. -1
41. -8
42. $<$
43. 8
44. rational number
45. even number
46. natural
47. $\frac{3}{4}$
48. $-\frac{6}{1}$
49. $>$
50. $-\frac{8}{4}$
51. negative
52. rational
53. 5
54. $-2, -3$
55. -8
56. 3.7
57. 0
58. 2.7
59. farther from
60. 2
61. -3
62. x
63. 2
64. 5y , 2y
65. none
66. 9
67. m – 10
68. 60 - x
69. x – 5
70. 3
71. x + 10
72. 2 x – 3
73. $\frac{1}{2}$ (a-7)
74. n + 7
75. x , +
76. 4s
77. 15b
78. 4 x 4
79. 1
80. 1
81. 2^5
82. 0
83. =
84. >
85. 19
86. 3^3
87. 120 m
88. 5d + 20
89. 15
90. 7
91. 2
92. 8
93. 8
94. x > –1
95. x < 5
96. x ≤ –7
97. 3 doesn't belong to any of them
98. each includes all values to the left of 4
99. – 9.5
100. 6
101. x < 0
102. w
103. a
104. distance traveled
105. the number of correct answers
106. y = 9 – x
107. y = 2x + 5
108. divide by 3
109. subtract 3 then divide by 2
110. 22
111. 0
112. results in a lot of different answers
113. favorite colors
114. favorite TV shows
115. histogram
116. dot plots
117. bar graph
118. all
119. each value is represented by a point.
120. each bar represents a number or categorical
121. the bars must touch
122. bars are used to represent data
123. both of bar graph and histogram
124. all
125. histogram
126. bar graph
127. all
128. can display numerical and categorical
129. 50
130. 5
131. 6
132. 6
133. 3
134. 6
135. two modes
136. increases
137. Both
138. 18
139. range
140. histogram
141. $-4\frac{2}{3}$
142. 0.5
143. second one
144. x < 2
145. x + 2 = 9
146. 6
147. 9
148. 3
149. 5
150. 53
151. none
152. mean
153. decrease
154. 9
155. 35
156. 12

Second

1. 48
2. 9
3. 1989
4. 4886
5. 2
6. 2
7. 2
8. 3
9. 11
10. 2 , 3 , 5 , 7
11. 70
12. 1
13. their product
14. prime
15. 2
16. 2
17. prime number

18 2 , 2 , 7 19 1
20 their product 21 5 , 3 , 5 , 6
22 7 , 2 , 4 23 9 , 2 , 8 , 8 24 9 , 4 , 6
25 the same distance \ different
26 – 10 27 – 8 28 0
29 1 30 1 31 0
32 1 33 0 34 – 1
35 0 36 – 2 , – 1 , 0 , 1 37 -1,-2,-3
38 – 1,0,1,2 39 -1.5
40 integer , rational 41 -7
42 – 7 ,-8 43 – 5 ,-6
44 natural integer , rational 45 rational
46 $-\frac{5}{2}$ 47 – 1.75 48 5
49 $\frac{7}{9}$ 50 $\frac{3}{4}$ 51 0.03
52 0.7 53 5 , – 5 54 7
55 9 56 – 4 57 18
58 equal 59 x 60 3
61 2 62 6 x ,2x 63 3.2
64 3b 65 z + 36 66 x – 5
67 m + 12 68 12 – d 69 7z
70 five times a increased by seven
71 4s 72 45 73 81
74 not equal 75 33 76 s-10
77 7 78 3n,2n 79 2 (w – 5)
80 80 81 base , exponent
82 4^2 83 6^3 84 7^2
85 4^5 86 6 , 4 87 4
88 4 89 3^6 90 0
91 1 92 8 93 7 x 7
94 8 95 x + 1 = 8,7 96 5
97 11 98 2 99 9
100 4 101 3 102 5
103 3 104 x < – 6
105 6 belongs to both 106 x > – 1
107 x < 2 108 x>-9 109 r , e
110 a
111 number of box , the price of box
112 m 113 x , y , 300
114 add 4 115 6 116 3
117 3
118 greatest value – smallest value
119 dot plots or box plots 120 histogram
121 8 122 15 – 3 = 12 123 17
124 27 125 Mean , range
126 10 127 18

Third

1 a 95 b 288 c 442 R5
d 49 e 629R17 f 632

2 a 35 bags b 21 trays
c 2825 ÷ 25 = 113 , 113 x 36 = 4068 pounds
d 45 x 84 = 3780 , 3780 ÷ 12 = 315 books
e 32 x 5 = 160 pencils
4 x 16 = 64 pencils
Total = 160 + 64 = 224 pencils
Each friend = 224 ÷ 8 = 28 pencils
f each class = 1125 ÷ 25 = 45 students

3 a 12 , 45 b 3 c 3
d 180 e no

4 a 10 , 21 b none c 1
d 210 e yes

5 10

6 greatest 8
2 oranges , 3 apples

7 14 groups
2 pens , 3 notes

8 GCF = 8 , LCM = 48

9 a $6\frac{5}{6}$ b $10\frac{9}{20}$
c $1\frac{3}{20}$ d $3\frac{3}{4}$

10 $21\frac{1}{4}$ 11 $18\frac{3}{4}$

12 $1\frac{11}{20}$ 13 $4\frac{1}{10}$

14 a < b < c <
d > e < f <
g = h < i <

15 a Ascending: $-17, -9, |-3|, 8, |12|$

Descending: $|12|, 8, |-3|, -9, 17$

b Ascending: $-\frac{3}{4}, \frac{1}{4}, \frac{1}{2}, \frac{5}{8}, \frac{3}{4}$

Descending: $\frac{3}{4}, \frac{5}{8}, \frac{1}{2}, \frac{1}{4}, -\frac{3}{4}$

16 a 12 b 34 c 12
d 22 e 18 f 5
g 19 h 2 i 3

17 a 3 b 3
c 21 d 15

18 a $\frac{t}{15}$ b $5h + 10$ c $10p - 325$

19 a 19 b 17
c 15 d 18

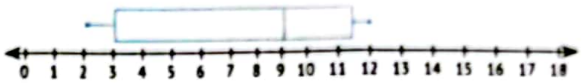
20 a $y = 150x$ b x
c y d 1800

21 a $y = x - 50$ b x
c y d 370

22 20, 40, 70, 90 , $y = 10x$

23 8, 14, 6, 18, 10

24 a 2, 2, 3, 7, 8, 9, 9, 10, 10, 12
b 3 c 8.5
d 10
e



25 130

26 a 2 b 4 c 10
d 15 e 18

27 a 23 b 22 c 21
d 10 e 30

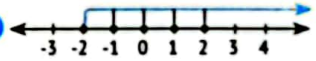
28 a 8 , 9 , (9 , 10) , 1
b 14, 14, 11, 19
c 9 , 8.5 , 7 , 14
d 27 , 27.5 , 30 , (20, 21)

29 a 2 b 3 c 1

30 a 2 b 4
c 3 d 1

31 a

b



Model Exams

Model (1)

First

ⓐ 1 ⓑ $4\frac{1}{4}$ ⓒ −3
ⓓ x − 5 ⓔ 1
ⓕ results in a lot of different answer
ⓖ bars are used to represent data

Second

ⓐ 48 ⓑ 2 ⓒ x
ⓓ m + 12 ⓔ 81 ⓕ x > −1
ⓖ 8
ⓗ numerical,categorical

Third

ⓐ −5 ⓑ $-\frac{6}{1}$ ⓒ 15
ⓓ x ≤ −1 ⓔ w ⓕ 50
ⓖ 12

Fourth

① ⓐ a − 247 ⓑ $6\frac{3}{10}$
② ⓐ 10, 21 ⓑ none ⓒ 1
ⓓ 210 ⓔ yes
③ Answer by yourself. ④ Answer by yourself.

Model (2)

First

ⓐ their product ⓑ (6 × 7) + (6 × 5)
ⓒ 2 ⓓ 60 − x
ⓔ 4 × 4 ⓕ Favorite colors
ⓖ bars are used to represent data.

Second

ⓐ 9 ⓑ 2 ⓒ 3
ⓓ 12 − d ⓔ 12 ⓕ 4, −4
ⓖ Numerical
ⓗ maximum value − minimum value

Third

ⓐ > ⓑ 3.7 ⓒ 7
ⓓ x < 5 ⓔ a ⓕ 5
ⓖ 35

Fourth

① 58 trays
② t + 20
③ ⓐ y = x − 70 ⓑ 490
④ 8 , 14 , 6 , 18 , 10

Model (3)

First

ⓐ their product ⓑ (7 × 2) + (7 × 9)
ⓒ 9 ⓓ x + 5 ⓔ 19
ⓕ Favorite TV shows
ⓖ both of bar graph and histogram

Second

ⓐ 1,989 ⓑ integer - rational
ⓒ 2 ⓓ multiplying by 5 then add 7
ⓔ not equal ⓕ base - exponent
ⓖ non statistical ⓗ 6

Third

ⓐ < ⓑ $\frac{3}{4}$ ⓒ 5d+20
ⓓ each including all the values to the left of 4.
ⓔ 6 ⓕ 6 ⓖ decreases

Fourth

① ⓐ 15 ⓑ 2
② 10 , 20 , 35 , 45 y = 5x
③ − 17, − 9 , | − 3 | , 8 , | 12 |
④ Draw by yourself.

Model (4)

First

a 8 b 1
c m – 10 d > e 120 m
f histogram g All of the previous

Second

a 4,865 b 7,2,4 c 7z
d 3n , 2n e 5 f y
g Categorical h categorical

Third

a 0 b natural c x < 0
d divide by 3 e 22 f 6
g mean

Fourth

① 14,2 pen,3 note book
② a y = x + 15 b 135 LE
③ Draw by yourself.
④ a 2 b 4 c 10
d 15 e 18

Model (5)

First

a 2 × 2 × 3 b $2\frac{3}{4}$ c 6
d $\frac{1}{2}(a-7)$ e > f dot plot
g histogram

Second

a (5 × 3) + (5 × 6) b 1
c 6 × ,2x d 45 e 8^3
f 2 g non statistical
h histogram

Third

a –1 b even number
c 3 doesn't belong to any of them
d 6 e y = 2x + 5 f 3
g none

Fourth

① a 45 b $2\frac{1}{3}$
② 130
③ x: 200, 225 y: 30, 35
y = x + 5 (Draw by yourself)
④ a 2 b 3 c 1

Model (6)

First

a has only two factors b 2 × 2 × 5
c 5y ,2y d 2x –3 e 0
f bar graph g two modes

Second

a 8 × (9 + 2) = (8 × 9) + (8 × 2)
b 11 c –2 , –1 , 0 , 1 d 3.2
e 6^3 f 4
g number of books h 3

Third

a -6 b rational number
c 3 d -9.5
e y = 9 – x f bar graph g 9

Fourth

① a 12,45 b 3 c 3
d 180 e no
② a 2 b 4
c 3 d 1
③ $21\frac{1}{4}$
④ a 17 b 21
c 21.5 d 18

Model (7)

First

a 1 b even c 3
d none e x + 10
f All of the previous g 8

Second

ⓐ 0.7 ⓑ their product
ⓒ 1 ⓓ 3 b ⓔ 11
ⓕ $x < 2$ ⓖ numerical data
ⓗ mean , range

Third

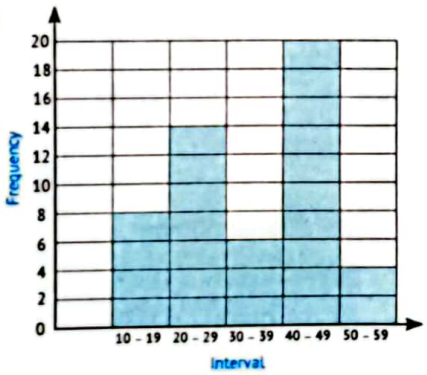
ⓐ 0 ⓑ 8 ⓒ 2^5
ⓓ 8
ⓔ the number of correct answers
ⓕ histogram ⓖ 6

Fourth

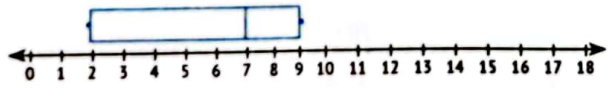
① $15 - (6\frac{2}{5} + 4\frac{1}{2}) = 4\frac{1}{10}$ km

② ⓐ 2 ⓑ 63

③



④ ⓐ 2 ⓑ 7 ⓒ 9



Model (8)

First

ⓐ 138 ⓑ 11 ⓒ $\frac{3}{8}$
ⓓ 3 ⓔ 1 ⓕ 18
ⓖ 6

Second

ⓐ 9 , 4 , 6 ⓑ −1 , 0 , 1 , 2 ⓒ z + 36
ⓓ 80 ⓔ 3 ⓕ a
ⓖ 6 ⓗ 18

Third

ⓐ 12 ⓑ > ⓒ 8
ⓓ $x < -7$ ⓔ distance traveled
ⓕ each information is represented by a point
ⓖ range

Fourth

① (795 + 521) + 28 = 47

② ⓐ 4 ⓑ 5x , 6x
ⓒ 5 , 2 , 6 ⓓ 3

③ Draw by yourself.

④ ⓐ 24 ⓑ 23
ⓒ 22, 25 ⓓ 9

Model (9)

First

ⓐ 6 ⓑ 0 ⓒ -3
ⓓ 5 − x ⓔ 1
ⓕ each bar represents a number or categorical
ⓖ The mean

Second

ⓐ −8 ⓑ −2.25 ⓒ s − 10
ⓓ 4^5 ⓔ price of book
ⓕ x + 1 = 8 , x = 7
ⓖ maximum value - minimum value
ⓗ 3

Third

ⓐ −15 ⓑ −8 ⓒ 7
ⓓ $x < 5$ ⓔ a
ⓕ favorite TV shows ⓖ 30

Fourth

① 8 , 48

② ⓐ y = 150x ⓑ x
ⓒ y ⓓ 1,800

③ ⓐ 2 ⓑ 6 ⓒ 2
ⓓ 9 ⓔ 4 (Draw by yourself)

④ 1 , 3 , 6 , 9 , 7

Model (10)

First

ⓐ 34 ⓑ 35 ⓒ 2

ⓓ 60 – x ⓔ 4 × 4

ⓕ the columns must touch ⓖ 5

Second

ⓐ 8 , 8 ⓑ the same distance ,different

ⓒ x – 5 ⓓ 7 × 7 × 7 ⓔ x < 3 or x ≤ 2

ⓕ 12 ⓖ 5 ⓗ 28

Third

ⓐ –4 ⓑ –1 ⓒ 31

ⓓ x < –2 ⓔ w ⓕ $-5\frac{2}{3}$

ⓖ 10

Fourth

① 8 , 2 orange , 3 apples

ⓑ x number of pen

ⓒ y total price , 54

② ⓐ y = 9x

③ ⓐ 95 - dot plot ⓑ 0 - dot plot

ⓒ 30 dot plot

④ 7 , 13 , 21 , 9 , 11