وزارة التربية والتعليم
الإدارة المركزية لتطوير المناهج
مكتب مستشار الرياضيات

برعاية

وزير التربية و التعليم و التعليم الفنى
معالى الأستاذ الدكتور / رضا حجازى

و توجيهات

رئيس الإدارة المركزية لتطوير المناهج
الدكتور / أكرم حسن

نموذج استرشادي لمادة الرياضيات (لغات)

للصف الأول الثانوى الفصل الدراسى الثاني 2024/2023

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Model Exam of 1st year secondary 2nd Term 2023-2024

نموذج استرشادى الرياضيات للصف الاول الثانوى للعام الدراسى 2023-2024م

First Qestion: Choose the correct answer

1) If matrix A is of order 3 × 2 , then the matrix 2 A is of oreder ……..…

a) 6 × 4 b) 3 × 4 c) 6 × 2 d) 3 × 2

2) The solution set of the equation $\begin{vmatrix} \sin x & 0 & 0 \\ \cos x & \csc x & 0 \\ \sec x & \cot x & \tan x \end{vmatrix} = 1$,

where $x \in [0^o , 360^o[$ is …….

a) $\{45^o , 135^o\}$ b) $\{135^o , 225^o\}$ c) $\{45^o , 225^o\}$ d) $\{45^o , 315^o\}$

3) The area of the quadrilateral of diagonal lengths 10 cm, 12 cm and the measure of the included angle between them is 30^o equals …….… cm^2

a) 15 b) 30 c) 60 d) 120

4) If $\vec{A} = (5 , 4)$, $\vec{B} = (-16 , 20)$, then the vectors $\vec{A}$, $\vec{B}$ are …….

a) perpendicular b) parallel c) equivalent d) opposite

5) If $\| 3k \vec{A} \| = \| 15 \vec{A} \|$, then k = ……..…

a) ± 5 b) 3 c) 5 d) 15

6) If C which divides $\overrightarrow{AB}$ externally by the ratio 5 : 7 , then $\frac{AC}{AB}$ = ……..…

a) $\frac{2}{5}$ b) $\frac{5}{2}$ c) $\frac{2}{7}$ d) $\frac{7}{2}$

7) The equation of the straight line passing through the origin point and parallel to the straight line whose equation $\vec{r} = (2 , -5) + k (3 , 4)$ is ……..…

a) $3x + 5y = 0$ b) $5x - 2y = 0$ c) $3x - 4y = 0$ d) $4x - 3y = 0$

Second Qestion: Choose the correct answer

1) If A is a skew symmetric matrix then if $A + A^t$ = ……..…

a) 2 A b) 2 A^t c) O d) zero

2) If A (3 , 5) , B (2 , 0) and C (– 3 , 3) then the area of the triangle ABC equals ……..… unit area

a) 2 b) 7 c) 14 d) 28

3) The soluion set of the equation $2 \sin x - \sqrt{3} = 0$ where $0^o < x < 360^o$, is …….

a) $\{30^o , 150^o\}$ b) $\{60^o , 120^o\}$ c) $\{150^o , 210^o\}$ d) $\{110^o , 240^o\}$

4) If the triangle ABC is right angled triangle at ∠ B , m(∠ A) = 0.925 rad, BC = 8 cm , then AC ≃ ……. cm

a) 10 b) 11 c) 12 d) 13

5) If $\vec{A} = (-2 , 1)$, $\vec{B} = (-3 , k)$ are parallel , then k = ……..…

a) $\frac{2}{3}$ b) $\frac{3}{2}$ c) $\frac{-2}{3}$ d) $\frac{-3}{2}$

6) If A (– 4 , 4) , B (5 , – 8) , C ∈ $\overline{AB}$, where CB : AC = 1 : 2 then the coordinates of point C is ……..…

a) (4 , – 8) b) (2 , – 4) c) (– 8 , 4) d) (– 4 , 2)

7) The measure of the angle between the straight line whose equations is 6 x – 3 y + 5 = 0 and the straight line whose slope $\frac{1}{3}$ is ……..… ^{o}

a) 45 b) 60 c) 120 d) 135

Third Qestion: Choose the correct answer

1) If $A = \begin{pmatrix} 3 \\ -2 \end{pmatrix}$, B = (2 5) , then $(B\ A)^T$ = …….

a) $\begin{pmatrix} 6 & 15 \\ -4 & -10 \end{pmatrix}$ b) $\begin{pmatrix} 6 & -4 \\ 15 & -10 \end{pmatrix}$ c) (−4) d) (4)

2) The point which belongs to the solution set of the system:

$x > 3$, $y < 1$, $x + y < 5$ is ……..…

a) (6 , – 2) b) (1 , – 2) c) (4 , 4) d) (7 , – 2)

3) A kite the length of its string is 42 meter , if the angle that the string makes with the horizontal ground equals 63^o, then the height of the kite from the ground ≃ ……. m

a) 19 b) 37 c) 80 d) 82

4) The area of a circular sector whose perimeter 20 cm , and the diamerter length of its circle equals 10 cm equals …….…. cm^2.

a) 100 b) 50 c) 25 d) 12.5

5) In the quadrilateral ABCD : $\overrightarrow{AB} + \overrightarrow{BC} + \overrightarrow{CD}$ = ……..…

a) $\overrightarrow{DA}$ b) $\overrightarrow{AD}$ c) $\vec{O}$ d) 2 $\overrightarrow{AD}$

6) Length of the perpendicular drawn from the point (– 2 , – 5) to the line

L : $x = -2 + 4k$, $y = -3k$ equals …….…. length unit

a) 1 b) 2 c) 3 d) 4

7) The vector equation to the straight line passes throught the point (1 , 2) and its slope is $\frac{-2}{3}$ is …….

a) $\vec{r} = (1 , 2) + k (-2 , 3)$ b) $\vec{r} = (1 , 2) + k (3 , -2)$

c) $\vec{r} = (-2 , 3) + k (1 , 2)$ d) $\vec{r} = (-2 , 3) + k (2 , 1)$

Fourth Qestion: Choose the correct answer

1) If $A = \begin{pmatrix} 2 & 1 \\ 14 & 3 \end{pmatrix}$, then | A | = …….

a) – 20 b) – 8 c) 8 d) 20

2) If (0 , 0) , (2 , 0) , (0 . 4) are the vertices of the solution set region of the inequlalities : $x \geq 0$, $y \geq 0$, $2x + y \leq c$, then c = …….

a) 1 b) 2 c) 3 d) 4

3) If $\sec\theta = \frac{5}{3}$, then $\tan^2\theta$ =…….

a) $\frac{4}{3}$ b) $\pm\frac{4}{3}$ c) $\frac{16}{9}$ d) $\frac{9}{16}$

4) If A = (2 , 5) , B = (7 , 6) are two points in the cartesian coordinates ,

then $\overrightarrow{AB}$ = ……..…

a) $9\vec{i} + 11\vec{j}$ b) $-\ 5\vec{i} - \vec{j}$ c) $9\vec{i} + \vec{j}$ d) $5\vec{i} + \vec{j}$

5) The equation of the straight line passing through the point (2 , – 1) and the intersection point of the two lines $x + y = 3$, $2x - y = 6$ is ……..…

a) $x - y + 3 = 0$ b) $x - y - 3 = 0$ c) $x + y - 3 = 0$ d) $2x - y - 3 = 0$

6) The two paramtric equations of the straight line which makes with the positive direction of X-axis an angle of measure 45° and passes through the point (3 , – 5) are …….

a) $x = 3 + k$, $y = -5 + k$ b) $x = 3 + k$, $y = 5 + k$

c) $x = 1 + 3k$, $y = 1 - 5k$ d) $x = 1 - 3k$, $y = 1 + 5k$

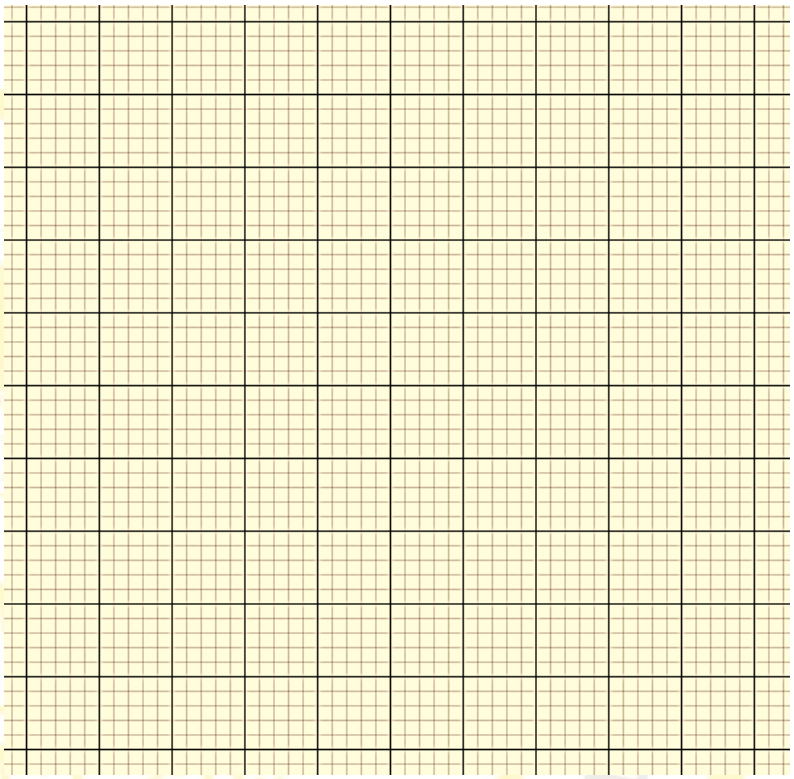
Fifth Qestion:

If $\vec{A}$ = (1 , – 3) , $\vec{B}$ = (2 , 4) , then find the polar form of the vector ($\vec{A} + 2\vec{B}$)

Sixth Qestion:

Determine graphgically the solution set of the following inequalities:

$x \geq 0$, $y \geq 0$, $x + 2y \leq 8$, $3x + 2y \leq 12$



انتهت الأسئلة

Model Answer of 2nd year secondary 2nd Term 2023- 2024

نموذج اجابة الرياضيات العامة للصف الثانى الثانوى أدبي للعام الدراسى 2023 / 2024م

Answer of First Qestion: *(Seven marks one mark for each)*

Question number	1	2	3	4	5	6	7
Anwser	D	C	B	A	A	B	D

Answer of Second Qestion: *(Seven marks one mark for each)*

Question number	1	2	3	4	5	6	7
Anwser	C	C	B	A	B	B	A

Answer of Third Qestion: *(Seven marks one mark for each)*

Question number	1	2	3	4	5	6	7
Anwser	C	A	B	C	B	D	B

Answer of Fourth Qestion: *(Six marks one mark for each)*

Question number	1	2	3	4	5	6
Anwser	B	D	C	D	B	A

Answer of Fifth Qestion: *(Three marks)*

$\vec{A} + 2\vec{B} = (1 , -3) + 2(2 , 4)$

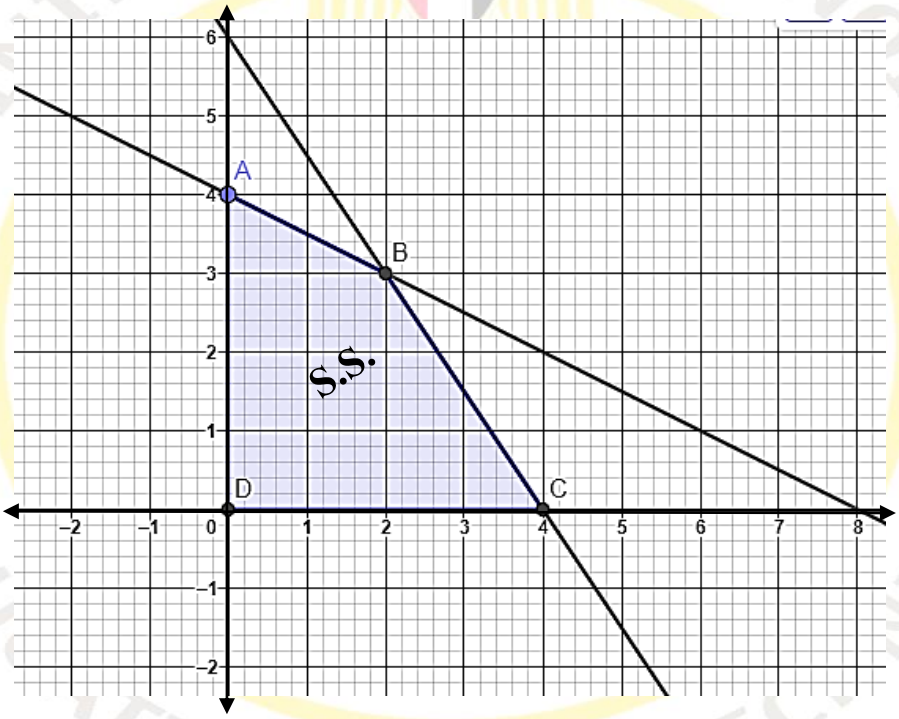
$= (1 , -3) + (4 , 8) = (5 , 5)$

$\therefore \left\|\vec{A} + 2\vec{B}\right\| = \sqrt{25 + 25} = 5\sqrt{2}$

$\tan \theta = 1 \quad , \quad \therefore \ \theta = 45^{o}$

$\therefore$ the polar form $= (5\sqrt{2} , 45^{o})$

Answer of Sixth Qestion: *(Two marks)*



انتهت الاجابة مع التمنيات بالتوفيق