

Q1: The solution set of the inequality  $3x + 5 \leq 8$  is

- A)  $(-\infty, 1)$     ~~B)  $(-\infty, 1]$~~     C)  $[1, \infty)$     D)  $(1, \infty)$

Q2: The solution set of the inequality  $5x - 3 > 7 - 3x$  is

- A)  $(-\infty, \frac{5}{4})$     B)  $[\frac{5}{4}, \infty)$     ~~C)  $(\frac{5}{4}, \infty)$~~     D)  $(-\infty, \frac{5}{4}]$

Q3: The solution set of the inequality  $2 < 3x - 4 \leq 5$  is

- ~~A)  $(2, 3]$~~     B)  $[2, 3)$     C)  $(2, 3)$     D)  $[2, 3]$

Q4: The solution set of the inequality  $x^2 < 9$  is

- A)  $(-\infty, -3) \cup (3, \infty)$     B)  $[-3, 3]$     C)  $(-\infty, -3] \cup [3, \infty)$     ~~D)  $(-3, 3)$~~

Q5: The solution set of the inequality  $x^2 \geq 9$  is

- A)  $(-\infty, -3) \cup (3, \infty)$     B)  $[-3, 3]$     ~~C)  $(-\infty, -3] \cup [3, \infty)$~~     D)  $(-3, 3)$

Q6: The solution set of the inequality  $x^2 - 2x \leq 0$  is

- A)  $(-\infty, 0) \cup (2, \infty)$     B)  $(0, 2)$     C)  $(-\infty, 0] \cup [2, \infty)$     ~~D)  $[0, 2]$~~

Q7: The solution set of the inequality  $x^2 - 8x + 12 > 0$  is

- ~~A)  $(-\infty, 2) \cup (6, \infty)$~~     B)  $(2, 6)$     C)  $(-\infty, 3] \cup [4, \infty)$     D)  $[3, 4]$

Q8: The solution set of the equality  $|x - 3| = 7$  is

- A)  $\{4, 10\}$     ~~B)  $\{-4, 10\}$~~     C)  $\{-10, -4\}$     D)  $\{-10, 4\}$

Q9: The solution set of the inequality  $|2x + 5| \geq 7$  is

- A)  $(-6, 1)$     B)  $(-\infty, -6) \cup (1, \infty)$     ~~C)  $(-\infty, -6] \cup [1, \infty)$~~     D)  $[-6, 1]$

Q10: The solution set of the inequality  $|3x - 7| < 2$  is

- ~~A)  $(\frac{5}{3}, 3)$~~     B)  $(-\infty, \frac{5}{3}) \cup (3, \infty)$     C)  $(-\infty, \frac{5}{3}] \cup [3, \infty)$     D)  $[\frac{5}{3}, 3]$

Q11: The distance between the two points  $(0, 3)$  and  $(4, 0)$  is

- A)  $\sqrt{50}$     B)  $\sqrt{10}$     C) 25    ~~D) 5~~

کے 4 سوال

$$|x| = D \Rightarrow x = D \text{ or } x = -D$$

$$|x| < D \Rightarrow -D < x < D$$

$$|x| > D \Rightarrow x > D \text{ or } x < -D$$



Q12: The distance between the two points (3,2) and (-1,-2) is

A)  $\sqrt{32}$

B)  $\sqrt{8}$

C) 4

D)  $\sqrt{18}$

Q13: Equation of the vertical line passing through the point (-2,5) is

A)  $x = 5$

B)  $y = -2$

C)  $y = 5$

D)  $x = -2$

Q14: Equation of the horizontal line passing through the point (-2,5) is

خط أفقي يقطع محور y

A)  $x = 5$

B)  $y = -2$

C)  $y = 5$

D)  $x = -2$

Q15: Slope of the following line  $2y - 5x + 7 = 0$  is

A)  $\frac{5}{2}$

B)  $-\frac{5}{2}$

C)  $\frac{2}{5}$

D)  $-\frac{2}{5}$

Q16: Equation of the line with slope -6 and y-intercept 5 is

A)  $y = -6x + 5$

B)  $y = 6x + 5$

C)  $y = -6x - 5$

D)  $y = 6x - 5$

Q17: The y-intercept of the line  $x + 2y = -4$  is

مطلوب y ← أخط x بمنز

A) 2

B) -2

C) 4

D) -4

Q18: The x-intercept of the line  $x + 2y = -4$  is

مطلوب x ← أخط y بمنز

A) 2

B) -2

C) 4

D) -4

Q19: Slope of the line that passes through the points (4,1) and (-2,3) is

$\frac{y_2 - y_1}{x_2 - x_1}$

A) -3

B)  $1/3$

C)  $-1/3$

D) 3

Q20: Equation of the line that passes through the point (-1,1) with slope 1 is

A)  $y = -x + 2$

B)  $y = x - 2$

C)  $y = x + 2$

D)  $y = -x - 2$

Q21: Equation of the line passing through the point (1,2) with slope 5 is

A)  $y = -5x + 3$

B)  $y = 5x + 3$

C)  $y = -5x - 3$

D)  $y = 5x - 3$

Q22: Equation of the line passing through the points (4,1) and (-2,3) is

نوجد الميل بعرضين نعوّض في أي نقطة

A)  $x + 3y + 7 = 0$

B)  $x + 3y - 7 = 0$

C)  $x - 3y - 7 = 0$

D)  $x - 3y + 7 = 0$

Q23: Equation of the line that passes through the point (2,1) and parallel to the line  $y = x + 2$  is

الموازي في المعادلة  
 $y - y_1 = m(x - x_1)$

A)  $y = x + 1$

B)  $y = x - 1$

C)  $y = -x + 3$

D)  $y = x - 3$

Q24: Equation of the line that passes through the point (2,1) and perpendicular to the line  $y = x + 2$  is

A)  $y = x + 1$

B)  $y = x - 1$

C)  $y = -x + 3$

D)  $y = x - 3$

Q25: Equation of the line that passes through the point (-2,2) and parallel to the line  $2x + y = 4$  is

A)  $2x + y = -2$

B)  $2x + y = 2$

C)  $x - 2y = 6$

D)  $x - 2y = -6$

$$22) (4, 1) (-2, 3)$$

$$y - y_1 = m(x - x_1)$$

$$m = \frac{3 - 1}{-2 - 4} = \frac{2}{-6} = -\frac{1}{3}$$

$$y - 1 = -\frac{1}{3}(x - 4)$$

$$\frac{\quad}{x} = 0$$

$$y - 1 = -\frac{1}{3}x + \frac{4}{3}$$

$$y + \frac{1}{3}x - 1 - \frac{4}{3} = 0$$

$$y + \frac{1}{3}x - \frac{7}{3} = 0 \Rightarrow 3y + x - 7 = 0$$

Q26: The equation

A)  $2x + y = -2$

Q27: If the  
new gra

A)  $y$



Q26: The equation of the line passes through the point  $(-2, 2)$  and perpendicular to the line  $2x + y = 4$  is

- A)  $2x + y = -2$       B)  $2x + y = 2$       C)  $x - 2y = 6$        D)  $x - 2y = -6$

Q27: If the graph of  $y = 1 - x^2$  is shifting to the left 1 unit and then it is shifting downward 1 unit, thus the new graph can be represented by

- A)  $y = (x + 1)^2$        B)  $y = -(x + 1)^2$       C)  $y = -(x - 1)^2$       D)  $y = (x - 1)^2$

Q28: If the graph of  $y = \sqrt{x}$  is shifting to the right 4 units and then it is shifting downward 2 units, thus the new graph can be represented by

- A)  $y = \sqrt{x + 4} - 2$       B)  $y = \sqrt{x - 4} + 2$       C)  $y = \sqrt{x + 4} + 2$        D)  $y = \sqrt{x - 4} - 2$

Q29: If the graph of  $y = \sqrt{x}$  is shifting to the left 4 units and then it is shifting upward 2 units, thus the new graph can be represented by

- A)  $y = \sqrt{x + 4} - 2$       B)  $y = \sqrt{x - 4} + 2$        C)  $y = \sqrt{x + 4} + 2$       D)  $y = \sqrt{x - 4} - 2$

Q30: Domain of the function  $f(x) = \sqrt{8 - 2x}$  is

- A)  $(-\infty, 4)$        B)  $(-\infty, 4]$       C)  $(4, \infty)$       D)  $[4, \infty)$

Q31: Domain of the function  $f(x) = \frac{1}{x - 1}$  is

- A)  $\mathbb{R}$       B)  $\mathbb{R} - \{0\}$       C)  $\mathbb{R} - \{-1\}$        D)  $\mathbb{R} - \{1\}$

Q32: Domain of the function  $g(t) = \frac{t}{\sqrt{2 - t}}$  is

- A)  $(2, \infty)$       B)  $(-\infty, 2]$        C)  $(-\infty, 2)$       D)  $[2, \infty)$

Q33: Domain of the function  $f(x) = \frac{3x + 5}{x^2 - x - 12}$  is

- A)  $\mathbb{R} - \{3, 4\}$       B)  $\mathbb{R} - \{-4, 3\}$        C)  $\mathbb{R} - \{-3, 4\}$       D)  $\mathbb{R} - \{-4, -3\}$

Q34: Domain of the function  $f(x) = \sqrt{x^2 - 4}$  is

- A)  $(-\infty, -2) \cup (2, \infty)$       B)  $[-2, 2]$       C)  $(-2, 2)$        D)  $(-\infty, -2] \cup [2, \infty)$

Q35: The function  $f(x) = x^2 + 1$  is

- A) an even function.      B) an odd function.      C) an even and odd function.      D) neither even nor odd function

Q36: The function  $f(x) = x^3 + x$  is

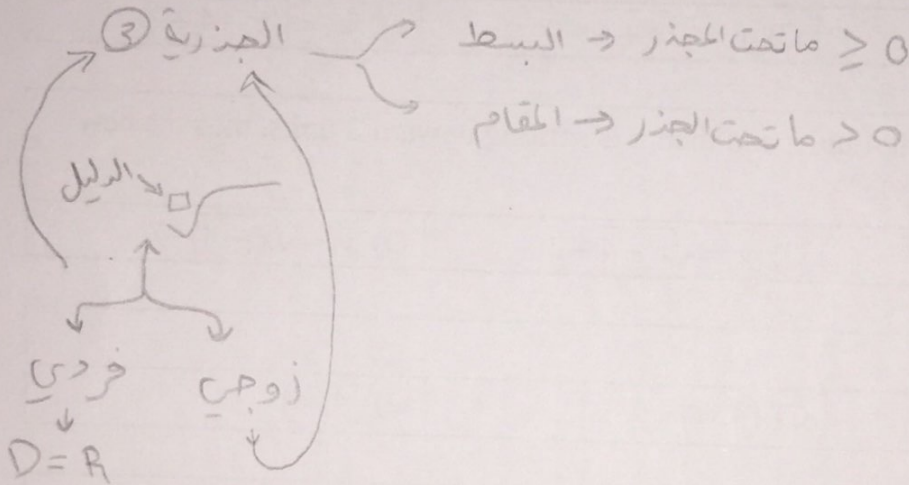
- A) an even function.       B) an odd function.      C) an even and odd function.      D) neither even nor odd function.

على سؤال 30  
اختصار أفكار التوضيح

Domain

① كثيرة الحدود  $\rightarrow D = \mathbb{R}$

② الكسرية  $\rightarrow D = \mathbb{R} - \{ \text{المقام} = \text{صفر} \}$



$f + g \rightarrow D_f \cap D_g$

$\frac{f}{g} \rightarrow D_f \cap D_g - \{ \text{أصفار المقام} \}$

$f \circ g \rightarrow D_{\text{الناتج}} \cap D_{\text{البيانات}}$



Q37: The function  $f(x) = \frac{1}{x^2 - 1}$  is

A) an even function.

B) an odd function.

C) an even and odd function.

D) neither even nor odd function.

Q38: The function  $f(x) = x^3 - 2$  is

A) an even function.

B) an odd function.

C) an even and odd function.

D) neither even nor odd function.

Q39: The function  $f(x) = \frac{x}{x^2 - 1}$  is

A) an even function.

B) an odd function.

C) an even and odd function.

D) neither even nor odd function.

Q40: The function  $f(x) = x^2 - 6x$  is

A) an even function.

B) an odd function.

C) an even and odd function.

D) neither even nor odd function.

Q41: If  $f(x) = x$  and  $g(x) = \sqrt{x-1}$ , then domain of the function  $(f+g)(x)$  is

A)  $[1, \infty)$

B)  $(-\infty, 1]$

C)  $\mathbb{R}$

D)  $(1, \infty)$

Q42: If  $f(x) = x$  and  $g(x) = \sqrt{x-1}$ , then domain of the function  $(f-g)(x)$  is

A)  $(-\infty, 1]$

B)  $\mathbb{R}$

C)  $(1, \infty)$

D)  $[1, \infty)$

Q43: If  $f(x) = x$  and  $g(x) = \sqrt{x-1}$ , then domain of the function  $(f \times g)(x)$  is

A)  $\mathbb{R}$

B)  $(-\infty, 1]$

C)  $[1, \infty)$

D)  $(1, \infty)$

Q44: If  $f(x) = x$  and  $g(x) = \sqrt{x-1}$ , then domain of the function  $(f/g)(x)$  is

A)  $[1, \infty)$

B)  $(-\infty, 1]$

C)  $\mathbb{R}$

D)  $(1, \infty)$

Q45: If  $f(x) = x + 5$  and  $g(x) = x^2 - 3$ , then  $(f \circ g)(x) =$

A)  $x^2 + 2$

B)  $x^2 - 2$

C)  $-x^2 + 2$

D)  $-x^2 - 2$

Q46: If  $f(x) = x + 5$  and  $g(x) = x^2 - 3$ , then  $(g \circ f)(x) =$

A)  $x^2 + 10x - 22$

B)  $x^2 + 10x + 22$

C)  $x^2 - 10x + 22$

D)  $x^2 - 10x - 22$

Q47: If  $f(x) = x + 5$ , then  $(f \circ f)(x) =$

A)  $x^2 + 5$

B)  $x + 25$

C)  $x + 10$

D)  $x^2 + 10$

Q48: If  $f(x) = x + 5$  and  $g(x) = x^2 - 3$ , then  $(f \circ g)(0) =$

A) 4

B) -2

C) 3

D) 2

الزوجية والفرديّة من السالب والموجب

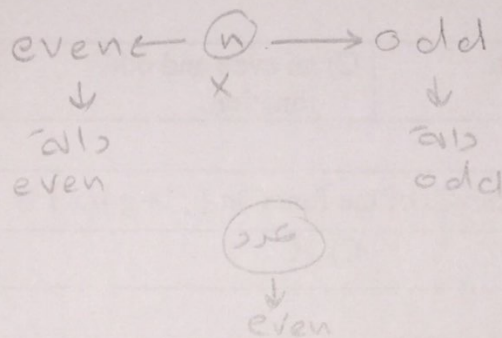
$$\text{even} \pm \text{odd} = \text{not even not odd}$$

$$\text{even} \mp \text{even} = \text{even}$$

$$\text{odd} \pm \text{odd} = \text{odd}$$

$$\begin{array}{l} \text{even} \times \text{even} \\ \text{odd} \div \text{odd} \end{array} = \text{even}$$

$$\text{even} \times \text{odd} = \text{odd}$$



46}

$$f = x + 5$$

$$g = x^2 - 3$$

$$g \circ f = g(f(x))$$

$$= g(x + 5)$$

$$= (x + 5)^2 - 3$$

قانون التربيع

$$(a + b)^2 = a^2 + 2ab + b^2$$

$$= x^2 + 10x + 25 - 3$$

$$= x^2 + 10x + 22$$



Q49: If  $f(x) = x + 5$  and  $g(x) = x^2 - 3$ , then  $(g \circ f)(0) =$

A) 20	B) -22	<input checked="" type="radio"/> C) 22	D) 21
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Q50: If  $f(x) = \frac{1}{1-x}$  and  $g(x) = \sqrt{x-1}$ , then  $(f \circ g)(x) =$

A) $\frac{-1}{1-\sqrt{x-1}}$	B) $\frac{1}{\sqrt{x-1}}$	C) $\frac{1}{1+\sqrt{x-1}}$	<input checked="" type="radio"/> D) $\frac{1}{1-\sqrt{x-1}}$
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Q51: If  $f(x) = \frac{1}{1-x}$  and  $g(x) = \sqrt{x-1}$ , then the domain of  $(f \circ g)(x)$  is و رى الورقة

A) $(1, \infty)$	<input checked="" type="radio"/> B) $[1, 2) \cup (2, \infty)$	C) $[1, \infty)$	D) $\mathbb{R}$
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Q52: If  $f(x) = \frac{1}{1-x}$  and  $g(x) = \sqrt{x-1}$ , then  $(g \circ f)(x) =$  ما أعوض أسوي توحيد مقامان

A) $\sqrt{\frac{x}{x-1}}$	B) $\frac{x}{\sqrt{x-1}}$	<input checked="" type="radio"/> C) $\sqrt{\frac{x}{1-x}}$	D) $\frac{x}{\sqrt{1-x}}$
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Q53: If  $f(x) = \frac{1}{1-x}$  and  $g(x) = \sqrt{x-1}$ , then the domain of  $(g \circ f)(x)$  is

A) $[0, 1]$	<input checked="" type="radio"/> B) $[0, 1)$	C) $(0, 1)$	D) $\mathbb{R}$
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Q54:  $[-3.2] =$  أخذ الـ 3 حتى في الحالة البرجيه دانكها

A) 3.2	B) -3.2	C) -3	<input checked="" type="radio"/> D) -4
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Q55: If a circle has radius 3 cm, what is the length of an arc subtended by a central angle of  $\frac{2\pi}{3}$  rad? s = r \* t

A) $\frac{2\pi}{9}$ cm	B) $\frac{9}{2\pi}$ cm	<input checked="" type="radio"/> C) $2\pi$ cm	D) $\frac{1}{2\pi}$ cm
------------------------	------------------------	---	------------------------

Q56:  $\frac{5\pi}{3} =$

A) $120^\circ$	B) $270^\circ$	<input checked="" type="radio"/> C) $300^\circ$	D) $150^\circ$
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Q57:  $150^\circ =$

A) $\frac{7\pi}{6}$	<input checked="" type="radio"/> B) $\frac{5\pi}{6}$	C) $\frac{6\pi}{5}$	D) $\frac{7\pi}{5}$
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Q58:  $\cos\left(\frac{3\pi}{4}\right) =$

A) $-\sqrt{2}$	B) $\sqrt{2}$	C) $\frac{1}{\sqrt{2}}$	<input checked="" type="radio"/> D) $-\frac{1}{\sqrt{2}}$
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$$58] \cos\left(\frac{3\pi}{4}\right)$$

$$= \cos\left(\frac{4\pi - \pi}{4}\right)$$

$$= \cos\left(\frac{4\pi}{4} - \frac{\pi}{4}\right)$$

$$= \cos\left(\pi - \frac{\pi}{4}\right)$$

→ العوضنا لبيارة

$$= -\cos\frac{\pi}{4} = -\frac{1}{\sqrt{2}} = -\frac{\sqrt{2}}{2}$$

→ بالقانون

$$= \cos\pi \cdot \cos\frac{\pi}{4} + \sin\pi \cdot \sin\frac{\pi}{4}$$

$$= (-1) \cdot \frac{1}{\sqrt{2}} = -\frac{\sqrt{2}}{2}$$

$$51] f \circ g(x) = \frac{1}{1 - \sqrt{x-1}}$$

\* لما يكون في المقام زي هنا عدد - أو + الجذر لازم أسوي انطاق مقام

$$D_{f \circ g} = D_{\text{الناتج}} \cap D_g$$

$$\frac{1}{1 - \sqrt{x-1}} \cdot \frac{1 + \sqrt{x-1}}{1 + \sqrt{x-1}}$$

$$= \frac{1 + \sqrt{x-1}}{(1)^2 - (\sqrt{x-1})^2} = \frac{1 + \sqrt{x-1}}{1 - x + 1}$$

$$R \cap \begin{matrix} x \geq 1 \\ x-1 \geq 0 \end{matrix} \rightarrow R \cap [1, \infty) = [1, \infty)$$

$$2-x \rightarrow R - \{2-x=0\} = R - \{2\}$$

$$D_{f \circ g} = ([1, 2) \cup (2, \infty)) \cap ([1, \infty))$$

$$= [1, 2) \cup (2, \infty)$$



Q59:  $\sin\left(\frac{2\pi}{3}\right) =$

- |                  |                          |  |                   |
|------------------|--------------------------|--|-------------------|
| A) $\frac{1}{2}$ | B) $-\frac{\sqrt{3}}{2}$ | <input checked="" type="radio"/> C) $\frac{\sqrt{3}}{2}$ | D) $-\frac{1}{2}$ |
|------------------|--------------------------|--|-------------------|

Q60:  $\cos(\pi+x) =$

- |   |              |             |             |
|---|--------------|-------------|-------------|
| <input checked="" type="radio"/> A) $-\cos x$ | B) $-\sin x$ | C) $\cos x$ | D) $\sin x$ |
|---|--------------|-------------|-------------|

Q61:  $\sin\left(\frac{3\pi}{2}-x\right) =$

- |             |              |   |             |
|-------------|--------------|---|-------------|
| A) $\cos x$ | B) $-\sin x$ | <input checked="" type="radio"/> C) $-\cos x$ | D) $\sin x$ |
|-------------|--------------|---|-------------|

Q62: The function  $f(x) = \frac{\sin x}{x}$  is

$\frac{\sin x}{x} \rightarrow \frac{\text{odd}}{\text{odd}} = \text{even}$

- |   |                     |                              |                                   |
|---|---------------------|------------------------------|-----------------------------------|
| <input checked="" type="radio"/> A) an even function. | B) an odd function. | C) an even and odd function. | D) neither even nor odd function. |
|---|---------------------|------------------------------|-----------------------------------|

Q63:  $\cos^4 x - \sin^4 x =$

$\cos^4 x - \sin^4 x = \cos(2x)$

- |               |      |               |  |
|---------------|------|---------------|--|
| A) $\cos^2 x$ | B) 1 | C) $\sin(2x)$ | <input checked="" type="radio"/> D) $\cos(2x)$ |
|---------------|------|---------------|--|

Q64: If  $\sin \theta = \frac{3}{5}$ , where  $\frac{\pi}{2} < \theta < \pi$ , then  $\tan \theta =$

- |                   |                  |  |                  |
|-------------------|------------------|--|------------------|
| A) $-\frac{4}{3}$ | B) $\frac{3}{4}$ | <input checked="" type="radio"/> C) $-\frac{3}{4}$ | D) $\frac{4}{3}$ |
|-------------------|------------------|--|------------------|

Q65: If  $\sin \theta = -\frac{1}{2}$ , where  $\pi < \theta < \frac{3\pi}{2}$ , then  $\cos \theta =$

- |   |                         |                          |                         |
|---|-------------------------|--------------------------|-------------------------|
| <input checked="" type="radio"/> A) $-\frac{\sqrt{3}}{2}$ | B) $\frac{\sqrt{3}}{2}$ | C) $-\frac{2}{\sqrt{3}}$ | D) $\frac{2}{\sqrt{3}}$ |
|---|-------------------------|--------------------------|-------------------------|

Q66: If  $\tan \theta = -\frac{4}{3}$ , where  $\frac{\pi}{2} < \theta < \pi$ , then  $\csc \theta =$

- |                   |                   |   |                  |
|-------------------|-------------------|---|------------------|
| A) $-\frac{5}{4}$ | B) $-\frac{5}{3}$ | <input checked="" type="radio"/> C) $\frac{5}{4}$ | D) $\frac{5}{3}$ |
|-------------------|-------------------|---|------------------|

Q67: If  $\sec \theta = \frac{\sqrt{5}}{2}$ , where  $\frac{3\pi}{2} < \theta < 2\pi$ , then  $\tan \theta =$

درى الورقة الحل

- |  |       |                  |      |
|--|-------|------------------|------|
| <input checked="" type="radio"/> A) $-\frac{1}{2}$ | B) -2 | C) $\frac{1}{2}$ | D) 2 |
|--|-------|------------------|------|

Q68:  $\sec\left(\frac{4\pi}{3}\right) =$

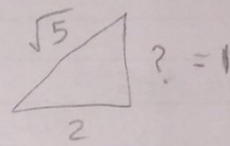
- |                         |      |  |                          |
|-------------------------|------|--|--------------------------|
| A) $\frac{2}{\sqrt{3}}$ | B) 2 | <input checked="" type="radio"/> C) -2 | D) $-\frac{2}{\sqrt{3}}$ |
|-------------------------|------|--|--------------------------|

$$\begin{aligned}
 63] \quad \cos^4 x - \sin^4 x &= (\cos^2 x) - (\sin^2 x)^2 \\
 &= (\cos^2 x - \sin^2 x) \cdot (\cos^2 x + \sin^2 x) \\
 &= (\cos^2 x - \sin^2 x) \cdot 1
 \end{aligned}$$

$$67] \quad \sec \theta = \frac{\sqrt{5}}{2}, \quad \frac{3\pi}{2} < \theta < 2\pi, \quad \tan \theta$$

التانجنت ← -

$$\sec \theta = \frac{1}{\cos \theta} = \frac{\text{الوتر}}{\text{المجاور}} = \frac{\sqrt{5}}{2}$$



$$\begin{aligned}
 \text{المقابل} &= (\sqrt{5})^2 - (2)^2 \\
 &= 5 - 4 = 1
 \end{aligned}$$

$$\tan \theta = -\frac{1}{2}$$

$$68] \quad \sec\left(\frac{4\pi}{3}\right) = \frac{1}{\cos\left(\frac{4\pi}{3}\right)} = \frac{1}{\cos\left(\frac{3\pi+\pi}{3}\right)} = \frac{1}{\cos\left(\pi+\frac{\pi}{3}\right)} = \frac{1}{-\frac{1}{2}} = -2$$



Q69: If  $\sin \theta > 0$  and  $\cos \theta < 0$ , then the angle  $\theta$  lies in the

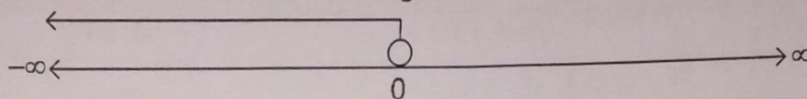
- A) first quadrant.     B) second quadrant.    C) third quadrant.    D) fourth quadrant.

Q70:  $2 \sin\left(\frac{\pi}{8}\right) \cos\left(\frac{\pi}{8}\right) =$

ورى الورقة

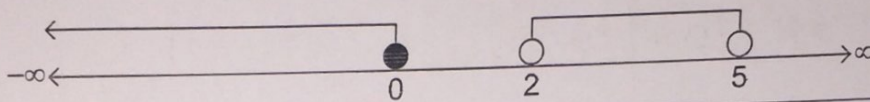
- A)  $\frac{1}{\sqrt{2}}$     B)  $\frac{\sqrt{3}}{2}$     C)  $\frac{1}{2}$     D)  $-\frac{1}{\sqrt{2}}$

Q71: Choose the interval that describes the shaded region



- A)  $(-\infty, 0)$     B)  $(-\infty, 0]$     C)  $(0, \infty)$     D)  $[0, \infty)$

Q72: Choose the intervals that describe the shaded regions



- A)  $(-\infty, 0) \cup [2, 5]$      B)  $(-\infty, 0] \cup (2, 5)$     C)  $(-\infty, 0) \cup [2, 5)$     D)  $(-\infty, 0] \cup (2, 5]$

Q73:  $|\cos(150^\circ)| =$

- A)  $\sqrt{3}$     B)  $\frac{1}{\sqrt{3}}$     C)  $\frac{2}{\sqrt{3}}$      D)  $\frac{\sqrt{3}}{2}$

Q74:  $\sin(30^\circ) \times \tan(45^\circ) =$

ورى الورقة

- A)  $\frac{1}{2}$     B)  $\frac{1}{\sqrt{2}}$     C)  $\frac{1}{\sqrt{3}}$     D)  $\frac{\sqrt{3}}{2}$

Q75:  $2 \times \sin(40^\circ) \times \cos(40^\circ) =$

صيغة برنولي زي 70 نفس القانون

- A)  $\sin(40^\circ)$     B)  $\cos(40^\circ)$      C)  $\sin(80^\circ)$     D)  $\cos(80^\circ)$

Q76:  $\frac{\sin^2(25^\circ) + \cos^2(25^\circ)}{\csc(70^\circ)} =$

- A)  $\sin(70^\circ)$     B)  $\cos(70^\circ)$     C)  $\csc(70^\circ)$     D)  $\sec(70^\circ)$

Q77: If  $f(x) = \frac{x-1}{x^3+x^2-6x}$ , then the domain of  $f(x)$  is given by

- A)  $\mathbb{R} \setminus \{-3, -2, 0\}$      B)  $\mathbb{R} \setminus \{-3, 0, 2\}$     C)  $\mathbb{R} \setminus \{-2, 0, 3\}$     D)  $\mathbb{R} \setminus \{0, 2, 3\}$

كسرية كسرة صفر  
المجال =  $\mathbb{R} \setminus \{-3, -2, 0\}$

$$70] \sin\left(2 \cdot \frac{\pi}{8}\right) = \sin\left(\frac{\pi}{4}\right)$$

$$= \frac{1}{\sqrt{2}}$$

$$= \frac{\sqrt{2}}{2}$$

دا السؤال لازم  
ينحل بالمطابقة

مثل دا القانون  
اللي استغنناه (70)

$$2\sin\theta \cdot \cos\theta = \sin 2\theta$$

$$73] \left| \cos(150^\circ) \right| = \left| \cos\left(\frac{5\pi}{6}\right) \right| = \left| \frac{-\sqrt{3}}{2} \right| = \frac{\sqrt{3}}{2}$$

$$74] \sin(30^\circ) \cdot \tan(45^\circ)$$

$$= \frac{1}{2} \cdot \frac{\sin 45^\circ}{\cos 45^\circ}$$

$$= \frac{1}{2} \cdot \frac{\frac{1}{\sqrt{2}}}{\frac{1}{\sqrt{2}}}$$

$$= \frac{1}{2} (1) = \frac{1}{2}$$

لا تبخروا  
وكونوا أمولها  
sing cos

$$76] \frac{\sin^2(25^\circ) + \cos^2(25^\circ)}{\csc(70^\circ)}$$

$$= \frac{1}{\csc(70^\circ)} = \sin(70^\circ)$$

استخدم  
المطابقة  
كروني

77] كثيرة كثيرة صود → أطلع أرقام  
المقام :

المجال = مجموع أرقام المقام - R

$$x^3 + x^2 - 6x = 0$$

$$x(x^2 + x - 6) = 0$$

$$x(x+3)(x-2) = 0$$

$$x=0, x+3=0, x-2=0$$

$$x=0, x=-3, x=2$$

$$R = \{-3, 0, 2\}$$



Q78: Domain of the following function  $f(x) = \frac{\sqrt[4]{x}}{x^2-9}$  is

- A)  $(-\infty, 0] \setminus \{-3\}$      B)  $[0, \infty) \setminus \{3\}$     C)  $\mathbb{R} \setminus \{-3, 0, 3\}$     D)  $\mathbb{R} \setminus \{-3, 3\}$

Q79: Domain of the following function  $f(x) = \sqrt[3]{x^2-16}$  is

دليل فردي = زوجي R

- A)  $(-\infty, -4] \cup [4, \infty)$     B)  $\mathbb{R} \setminus \{-4, 4\}$     C)  $\mathbb{R} \setminus \{16\}$      D)  $\mathbb{R}$

Q80: Equation of the line that passes through the point  $(4, -1)$  and has no slope is

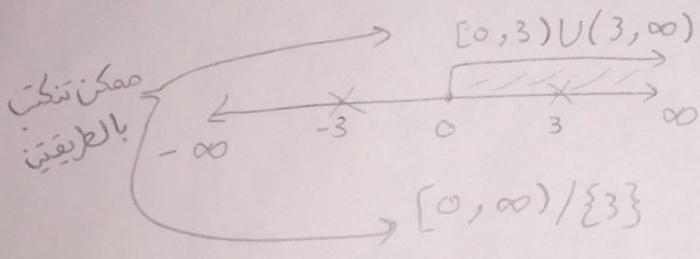
- A)  $x = 4$     B)  $x = -1$     C)  $y = 4$     D)  $y = -1$

Q81: Equation of the line that passes through the point  $(4, -1)$  with slope zero is

- A)  $x = 4$     B)  $x = -1$     C)  $y = 4$      D)  $y = -1$

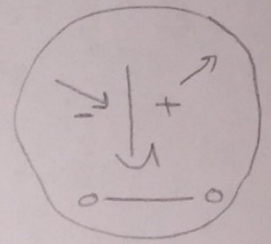
Best Wishes

78]  $\frac{\sqrt[4]{x}}{x^2-9} \rightarrow D = [0, \infty)$   
 $\frac{\sqrt[4]{x}}{x^2-9} \rightarrow D = \mathbb{R} - \{\pm 3\}$



80]  $(4, -1)$

$|x = 4$



الأسئلة في الاختبار 33 عليهم 30 درجة، كل خيار ارجح