موضوع/ اول 3

Question 1: Choose the correct answer for the following (10 Marks)

1) " x is at least 13 "

   a) $x < 13$ b) $x \le 13$ c) $x > 13$ **d) $x \ge 13$**

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2) The graph of $x = n$ is

   a) An horizontal line   **b) a vertical line**   c) an x-intercept   d) a y-intercept

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3) 15 is 25% of what number?

   a) 30   **b) 60**   c) 90   d) 120

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4) The GCF of $(18\, x^2 y^5,\ 30x^2,\ 6\, x^5 y^3)$.

   a) $6\, y^3 x^5$ **b) $6x^2$**   c) $6\, y^3$ d) $2x^2$

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5) The decimal notation of   the number 3.27×10^{-5} is :

   a) 0.00000327   b) 0.00327   **c) 0.0000327**   d) 0.000327
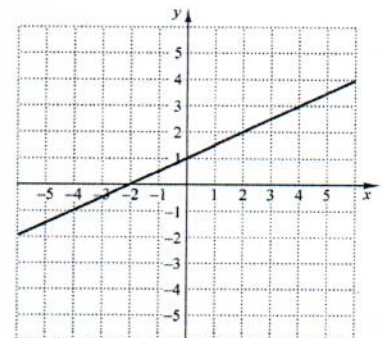
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6) The x-intercept of the line in the figure is :

   a) (0,1)   b) (0,2)

   c) (-2,0)   d) (2,0)

7) The degree of the polynomial $9y^2x^3 - 10x^5 + 4y^5x + 7x^4 + 10$ is

a) 5   b) 7   c) 6   d) 4

8) The excluded value of the rational expression $\dfrac{2x}{3-x}$

a) zero   b) 2   c) -3   d) 3

9) Subtract: $(-3a^2b^2 + 3ab - a) - (5a^2b^2 - 2ab + b^2)$.

a) $-8a^2b^2 - 5ab + b^2 - a$ b) $-8a^4b^4 - 5a^2b^2 + b^2 + a$

c) $-8a^2b^2 + 5ab - b^2 - a$ d) $2a^2b^2 - 5ab + b^2 + a$

10) Determine whether each of the following is a perfect square trinomial

a) $x^2 - 8x - 16$ b) $4x^2 + 20x - 25$ c) $9x^2 + 12x + 4$ d) $4x^2 - 6x + 9$

$(3x + 2)(3x + 2) \Longrightarrow (3x + 2)^2$

Question	1	2	3	4	5	6	7	8	9	10
Answer	d	b	b	b	C	C	a	d	C	C

Question 2 (2 Marks)

Perform and simplify the following:

$$\frac{(2x^5 + 6x^4 + 4x)}{2x}$$

$$= x^4 + 3x^3 + 2$$

Question 3 (2 Marks)

Perform and simplify the following polynomial :

$$(5xy^2 - 4x^2y + 5x^3 + 2) + (-2x^2y + 3xy^2 - 3x^3y - 5)$$

$$= 8xy^2 - 6x^2y + 5x^3 - 3x^3y - 3$$

$$= -3x^3y + 5x^3 - 6x^2y + 8xy^2 - 3$$

Question 4 (2 Marks)

Solve the equation

$$x(x - 5) = 14$$

$$x^2 - 5x = 14 \implies x^2 - 5x - 14 = 0 \implies (x-7)(x+2) = 0$$

$$x - 7 = 0 \quad \text{or} \quad x + 2 = 0$$

$$x = \boxed{7} \qquad \qquad x = \boxed{-2}$$

$$(7, -2) \qquad = \text{الحل}$$

Question 5 (2 Marks)

Solve the inequality:

$5 - 11\,y \leq 3 - 9\,y$

$= -11y + 9y \leq 3 - 5$ ⟶ نقل المجاهيل في طرف والأعداد طرف

$-2y \leq -2$

$-y \leq 1$ ⟹ $\boxed{y \geq -1}$ الضرب في -1 وعكس المتراجحة.

Question 6 (2 Marks)

Graph the line $y = \frac{1}{3}x + 3$

x	0	3	
y	3	4	

نحدد نقطتى الإنشاء

$(0, 3) , (3, 4)$

ونرسم الخط