

Part 1

45

Circle the letter corresponding to the correct answer.1) Write an algebraic expression for "*3 times x squared minus 4 times x* ".

a) $3x - 4x^2$

b) $3x - 4x$

c) $3x^2 - 4$

d) $3x^2 - 4x$

2) Use the Distributive Property to simplify the expression $2(a + 3b) - 3(4a - b)$.

a) $-10a + 3b$

b) $-10a + 9b$

c) $-5a + 8b$

d) $-5a + 2b$

3) What is the value of $\frac{2 \times 8 - 2^2 \times 8}{2 \times 8}$?

a) -4

b) 4

c) 1

d) -1

4) Solve $\frac{2}{3} + r = -\frac{4}{9}$.

a) $r = \frac{2}{9}$

b) $r = -\frac{2}{9}$

c) $r = 1\frac{1}{9}$

d) $r = -1\frac{1}{9}$



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5) Solve $7h - 7 = 5(h - 2) - 5$.

a) $h = 0$

b) $h = 5$

c) $h = -14$

d) $h = -4$

6) What is the value of $(z - xy)^2 \div 4$ if $x = -3$, $y = -1$, and $z = 5$?

a) 16

b) 8

c) 1

d) -4

7) Solve the proportion $\frac{9b - 3}{9} = \frac{5b + 5}{3}$.

a) $b = 2$

b) $b = -3$

c) $b = -2$

d) $b = 3$

8) Solve $|3x - 3| = 9$.

a) $\{2, 4\}$

b) $\{-2, 4\}$

c) $\{-4, -2\}$

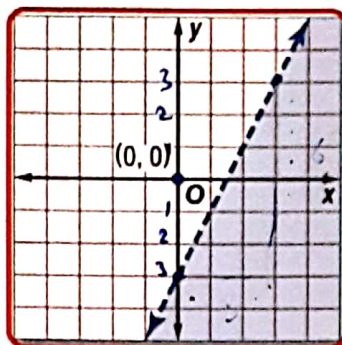
d) $\{-4, 2\}$



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9) Which inequality is graphed below?



$$\frac{6}{3} = 2$$

$$2x - 3$$

a) $y > 2x + 3$

b) $y \geq 2x + 3$

c) $y < 2x - 3$

d) $y + 3 \leq 2x$

$$0 + 3 \leq$$

10) What is the 12th term in the sequence 12, 15, 18, 21, ... ?

a) 39

b) 42

c) 45

d) 48

11) Which value of r gives the line passing through (3,2) and $(r,-4)$ a slope of $\frac{3}{2}$?

$$\frac{6}{2} = 3$$

a) -6

b) -1

c) 12

d) 7

12) Write the equation $y - 1 = 2\left(x - \frac{3}{2}\right)$ in slope-intercept form.

a) $2x + y = 2$

b) $\frac{1}{2}x - \frac{1}{2}y = 2$

c) $y = 2x - 2$

d) $y = 2x - \frac{1}{2}$



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13) If $f(x) = 4x + 3$, find $f^{-1}(x)$.

a) $f^{-1}(x) = 4x - 3$

b) $f^{-1}(x) = \frac{x-3}{4}$

c) $f^{-1}(x) = \frac{x-4}{3}$

d) $f^{-1}(x) = -3 - 4x$

14) What is the best estimate for the x -intercept of the graph of the linear function represented in the table?

x	y
0	5
1	3
2	1
3	-1
4	-3

a) between 1 and 2

b) between 0 and 1

c) between 2 and 3

d) between 3 and 4

15) Tareq bought a new coat and new shoes. He gave the cashier AED 300.

Which inequality represents this situation if x denotes the cost of the coat and y denotes the cost of the shoes?

a) $300 \leq x + y$

b) $300 \leq x - y$

c) $300 \geq x + y$

d) $300 \geq x - y$



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Part 2

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Show all the details when answering these questions.

16) Solve $6q - 18 = 1 - qr + t$ for q .

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17) Evaluate the expression $|2 + w - 3h| - |2h - w|$ if $w = -8$ and $h = 3$.

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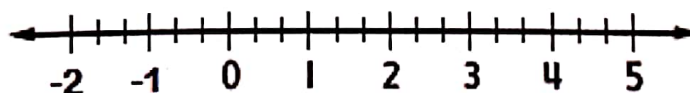
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18) Solve $-5(g + 4) > 3(g - 4)$. Graph the solution on the number line below.



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19) Graph $f(x) = |x - 2|$.

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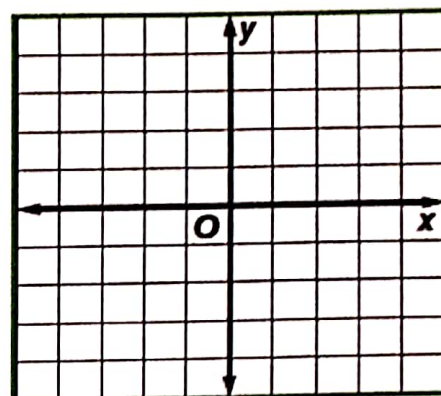
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20) Solve the system of inequalities by graphing.

$$y \leq 3$$

$$x + y \geq 1$$

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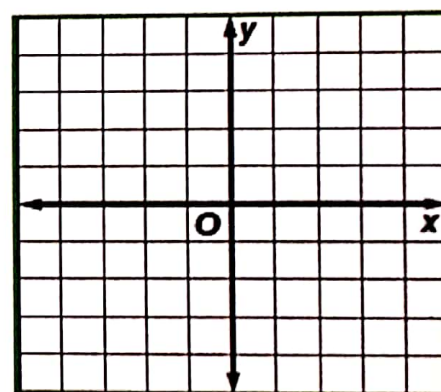
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21) Find the slope-intercept form of the line perpendicular to the graph of $x - 3y = 5$ and passing through $(0, 6)$.

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22) The table shows the cost C in AED of renting a boat for h hours.

Hours	3	2	1
Cost (AED)	21.75	14.5	7.25

a) Write a direct variation equation that relates the hours to the cost.

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b) How many hours h can we rent a boat with AED 65.25?

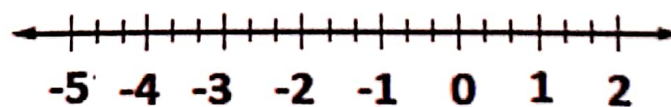
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23) Solve $|-3p - 7| \geq 5$, then graph the solution set on the number line below.



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