

Chapter 6 Test

PRACTICE TEST KEY

/20 Multiple Choice: Choose the BEST answer. Record your answer on the line.
NO CALCULATOR ALLOWED FOR THE MULTIPLE CHOICE PORTION OF THIS TEST.

- b 1. Determine the slope of the line that passes through G(4, -2) and H(-5, 10).
- a. $\frac{3}{4}$ c. $\frac{4}{3}$
b. $\frac{4}{3}$ d. $-\frac{3}{4}$
- d 2. What is the slope of the line with an x-intercept of -4 and a y-intercept of -3?
(Hint: draw a sketch!)
- a. $\frac{4}{3}$ c. $-\frac{4}{3}$
b. $\frac{3}{4}$ d. $-\frac{3}{4}$
- b 3. What is the slope of the line passing through points (x, y) and (p, q)?
- a. $\frac{p-x}{q-y}$ c. $\frac{x-y}{q-p}$
b. $\frac{q-y}{p-x}$ d. $\frac{q-p}{y-x}$
- d 4. The slope of a line is $\frac{5}{17}$. What is the slope of a line that is perpendicular to this line?
- a. $-\frac{17}{5}$ c. $\frac{17}{5}$
b. $-\frac{5}{17}$ d. $\frac{34}{10}$
- a 5. In the equation of a line, $y = mx + b$, the y-intercept is represented by the letter
- a. b c. y
b. m d. x

a 6. What is the **y-intercept** of the line $y = -\frac{4}{5}x$?

a. 0

c. 1

b. $\frac{3}{2}$

d. $-\frac{2}{3}$

a 7. Identify the pair of **perpendicular** lines.

a. $y = \frac{2}{3}x + 1$

c. $y = \frac{1}{5}x + 2$

$y = -\frac{3}{2}x + 2$

$y = \frac{1}{5}x + 1$

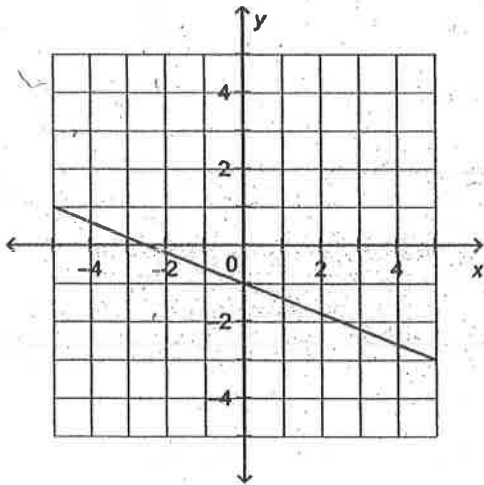
b. $y = \frac{2}{3}x + 1$

d. $y = \frac{1}{5}x + 2$

$y = -\frac{2}{3}x + 2$

$y = 5x + 1$

d 8. Write an equation in $y = mx + b$ form to describe this graph.



a. $y = -\frac{2}{5}x + 1$

c. $y = \frac{2}{5}x - 1$

b. $y = \frac{2}{5}x + 1$

d. $y = -\frac{2}{5}x - 1$

d 9. Points M(1, 9) and N(-1, 1) are on a line with y-intercept of 2. What is the equation of the line?

$$\frac{1-9}{-1-1} = \frac{-8}{-2} = 4$$

$$y = 4x + 2$$

a. $y = 2x - 4$

c. $y = -4x + 2$

b. $y = -2x + 4$

d. $y = 4x + 2$

- b 10. The equation of the line passing through the point (2, 3) with slope -2 is

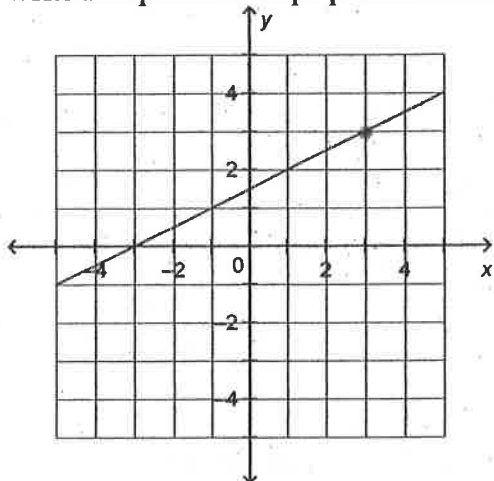
$$\begin{aligned}x - 3 &= -2(x - 2) \\ y - 3 &= -2x + 4 \\ y &= -2x + 7\end{aligned}$$

- a. $y = -2x + 3$
 b. $y = -2x + 7$
 c. $y = -2x + 1$
 d. $y = -2x - 1$

- b 11. Describe the graph of the linear function with this equation: $y - 9 = -2(x + 4)$

- a. The graph is a line through (4, -9) with slope -2.
 b. The graph is a line through (-4, 9) with slope -2.
 c. The graph is a line through (4, -9) with slope 2.
 d. The graph is a line through (-4, 9) with slope 2.

- C 12. Write an equation in slope-point form for this line.



- a. $y - 3 = -\frac{1}{2}(x - 3)$
 b. $y + 3 = -\frac{1}{2}(x + 3)$
 c. $y - 3 = \frac{1}{2}(x - 3)$
 d. $y + 3 = \frac{1}{2}(x + 3)$

- a 13. Write an equation in slope-point form for the line that passes through A(-5, 5) and B(-7, 8).

$$\frac{8 - 5}{-7 - (-5)} = \frac{3}{-2}$$

- a. $y - 5 = -\frac{3}{2}(x + 5)$
 b. $y - 8 = -\frac{3}{2}(x + 5)$
 c. $y + 5 = -\frac{3}{2}(x - 5)$
 d. $y + 8 = \frac{3}{2}(x - 5)$

a 14. Rewrite the equation $y = -2x - 5$ in general form.

a. $2x + y + 5 = 0$

c. $2x - y + 5 = 0$

b. $-2x - y + 5 = 0$

d. $-2x - y - 5 = 0$

b 15. For the line $4x - 3y - 12 = 0$, which statement is true?

a. The x -intercept is 4 and the y -intercept is 3.

b. The x -intercept is 3 and the y -intercept is -4.

c. The x -intercept is 3 and the y -intercept is 4.

d. The x -intercept is 4 and the y -intercept is -3.

c 16. Determine the slope of the line with this equation: $6x + 2y + 5 = 0$

a. $\frac{1}{3}$

c. -3

b. $-\frac{1}{3}$

d. 3

a 17. Which of the following equations represents a line with slope $-\frac{1}{2}$ and y -intercept 2?

a. $2x + 4y - 8 = 0$

c. $2x - 4y - 8 = 0$

b. $2x - 4y + 8 = 0$

d. $2x + 4y + 8 = 0$

$$y = -\frac{1}{2}x + 2$$

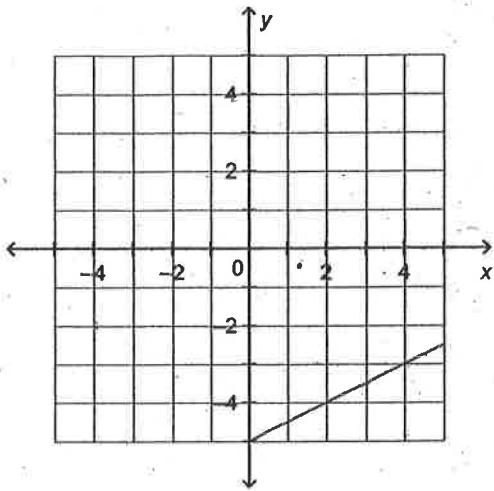
$$2y = -x + 4$$

$$x + 2y - 4 = 0$$

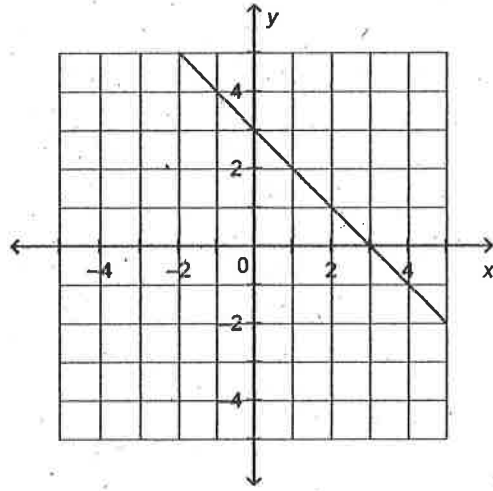
$$2x + 4y - 8 = 0$$

d 18. Which graph represents the equation $5x - 4y - 20 = 0$?

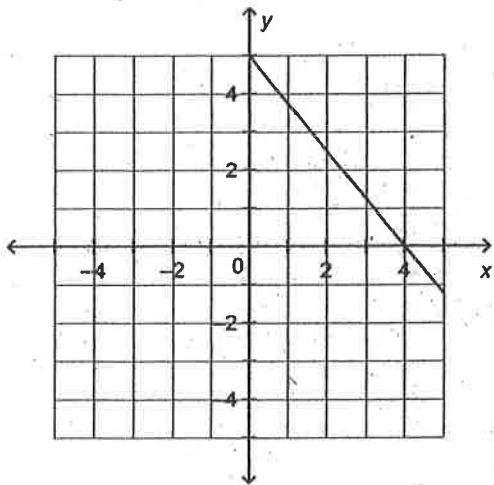
a.



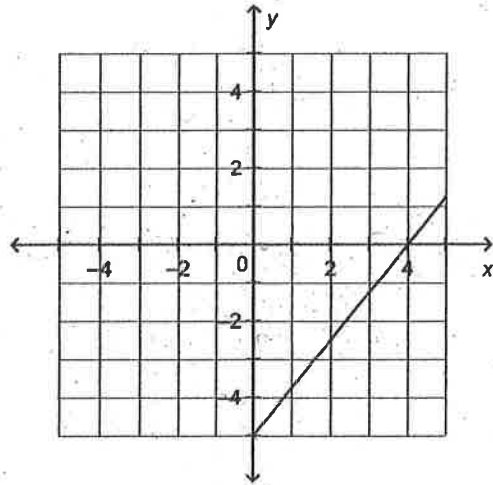
c.



b.

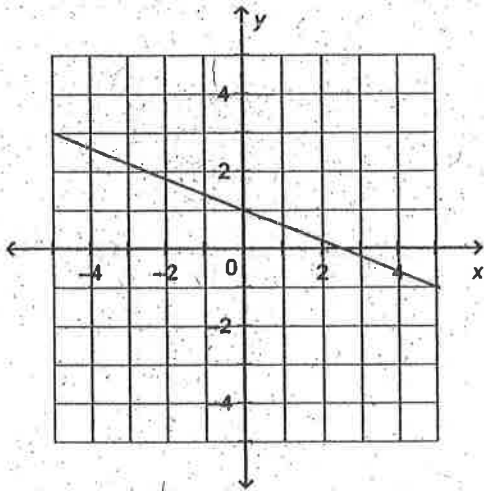


d.

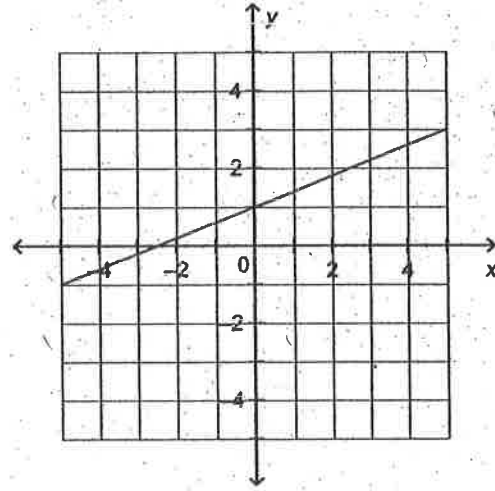


a 19. Which graph represents the equation $y = -\frac{2}{5}x + 1$?

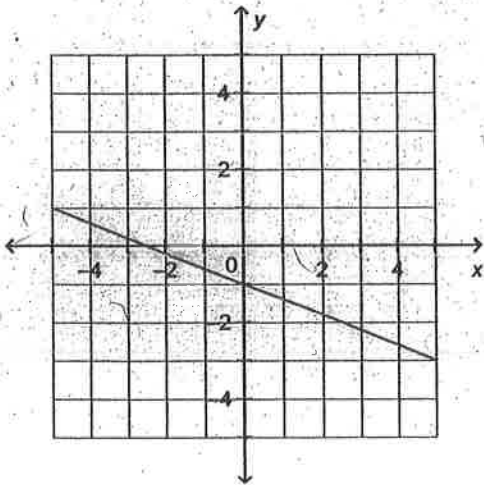
a.



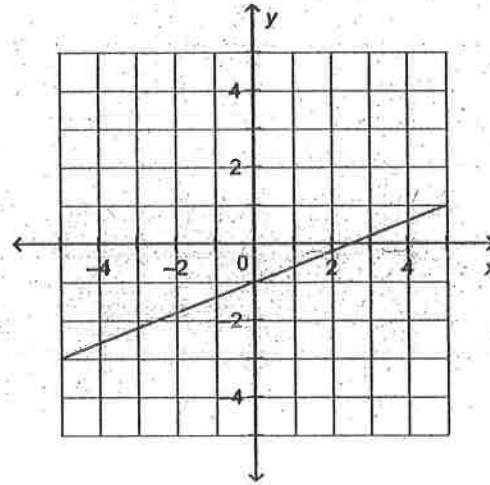
c.



b.



d.



C 20. What is the equation of the line that passes through $(3, -1)$ and is parallel to the line $y = 3x + 2$?

a. $y = 3x + 10$

b. $y = -\frac{x}{3} + 8$

c. $y = 3x - 10$

d. $y = -\frac{x}{3} - 10$

$y = 3x + b$

$-1 = 3(3) + b$

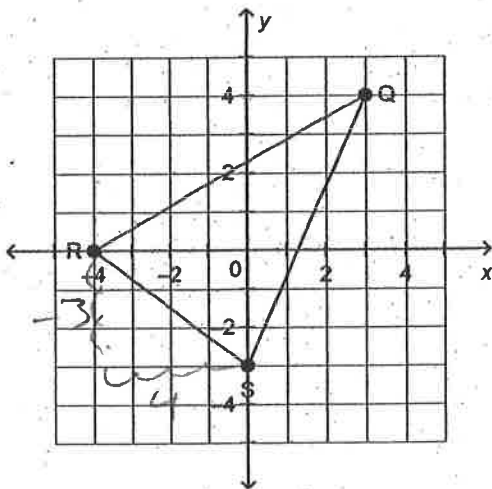
$-1 = 9 + b$

$-10 = b$

Chapter 6 Test

20 Written Response. SHOW ALL WORK. CALCULATOR PERMITTED.

21. Determine the slope of each line segment. (3 marks)



Slope of RQ: ~~4/7~~ $\frac{4}{7}$

Slope of SQ: $\frac{+7}{3}$

Slope of RS: ~~-3/4~~ $-\frac{3}{4}$

22. A line passes through R(10, 15) and K(-10, 25).

a) What is the slope of line RK? (2 marks)

$$\frac{25-15}{-10-10} = \frac{10}{-20} = \boxed{-\frac{1}{2}}$$

b) Line VB is parallel to RK. What is the slope of VB? (1 mark)

$$\boxed{-\frac{1}{2}}$$

c) Line WX is perpendicular to RK. What is the slope of WX? (1 mark)

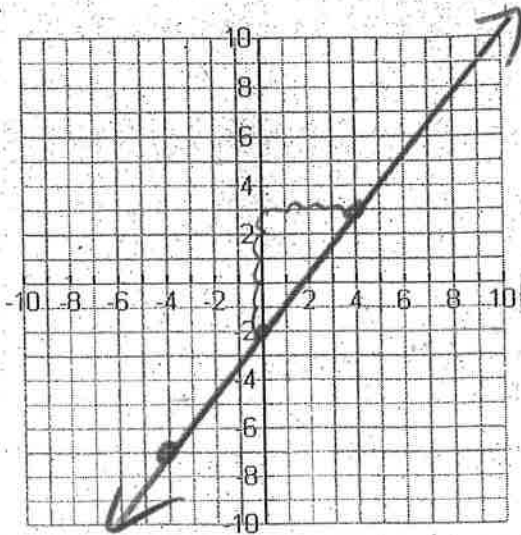
$$\boxed{2}$$



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23. Graph this equation $y = \frac{5}{4}x - 2$. (2 marks)



24. An equation of a line is $y = mx + 2$. Determine the value of m when the line passes through the point $J(-6, 3)$. (2 marks)

$$3 = m(-6) + 2$$
$$\frac{1}{-6} = \frac{-6m}{-6}$$

Answer:

$$\boxed{\frac{-1}{6}}$$

25. Francine runs a T-shirt company. For each order she receives, Francine charges a flat (initial) fee of \$45, plus \$12.95 per T-shirt.

a) Write an equation for the total cost, C dollars, for ordering n T-shirts. (1 mark)

$$C = 12.95n + 45$$

b) Marnell ordered 46 T-shirts. What was the total cost? (1 mark)

$$C = 12.95(46) + 45$$

$$C = \$595.70 + 45$$

$$C = \$640.70$$

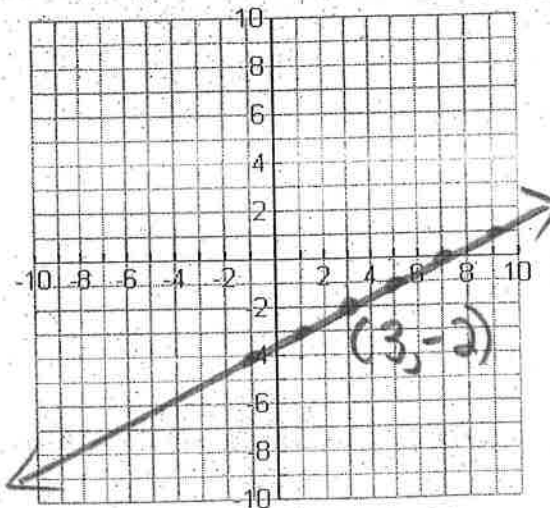
c) Jakub paid a total cost of \$1378.85. How many T-shirts did he order? (1 mark)

$$1378.85 = 12.95n + 45$$

$$\frac{1333.85}{12.95} = \frac{12.95n}{12.95}$$

$$n = 103 \text{ shirts}$$

26. Graph this equation: $y + 2 = \frac{1}{2}(x - 3)$ (2 marks)



$$\text{pt } (3, -2)$$

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

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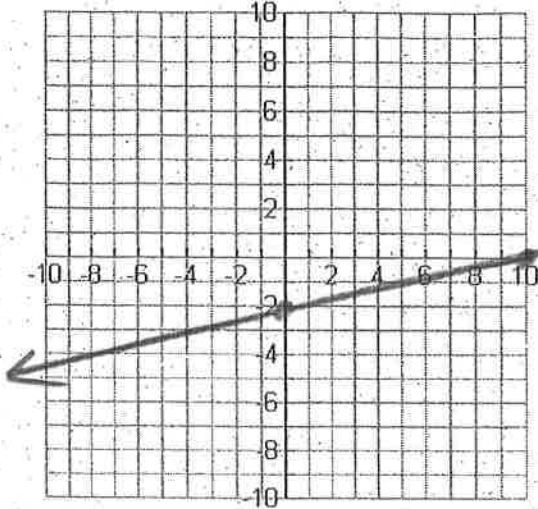
27. Graph this equation: $x - 5y - 10 = 0$ (2 marks)

$$x - 5y = 10$$

$$x_{\text{int}} = 10$$

$$y_{\text{int}} = -2$$

$$m = \frac{1}{5}$$



28. Write this equation in general form: $y = \frac{7}{4}x - 7$ (2 marks)

$$4y = 7x - 28$$

$$7x - 4y - 28 = 0$$