

Name: KEY Block: \_\_\_\_\_

Points: \_\_\_\_\_ / 24

& PC 10

Chapter 6 Review

**Multiple Choice**

Identify the choice that best completes the statement or answers the question.

**ANSWER**

d 1. Determine the slope of the line that passes through G(3, -3) and H(-5, 9).

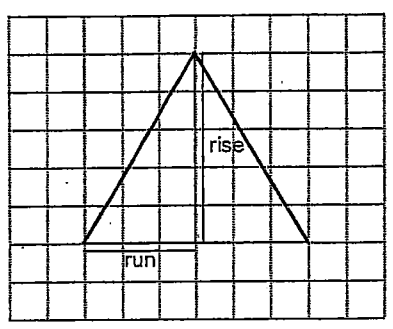
a.  $\frac{3}{2}$

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

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

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

b 2. Determine the steepness of this roof by calculating its slope.



a.  $-\frac{5}{3}$

c.  $\frac{3}{5}$

b.  $\frac{5}{3}$

d.  $-\frac{3}{5}$

d 3. A road rises 9 m for every 60 m measured horizontally. Determine the slope of the road.

a.  $\frac{20}{3}$

c.  $\frac{20}{3}$

b.  $-\frac{3}{20}$

d.  $\frac{3}{20}$

C 4. A line has x-intercept 2 and y-intercept 6? Determine the slope of the line.

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

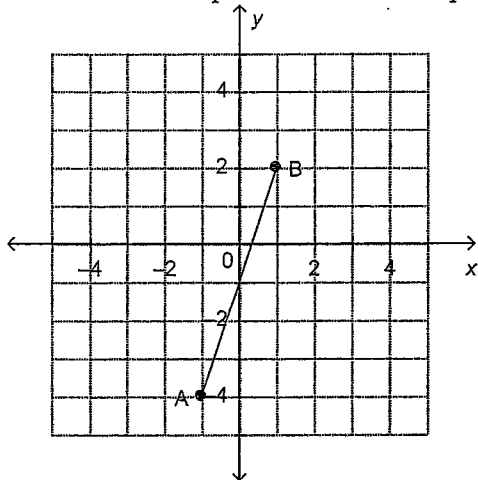
c. -3

b. 3

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

ANSWER

a 5. Determine the slope of the line that is perpendicular to this line segment.



- a. 3  
 b. -3  
 c.  $\frac{1}{3}$   
(d)  $-\frac{1}{3}$

d 6. Determine the slope of a line that is perpendicular to the line through W(-9, 7) and X(6, -10).

- a.  $-\frac{15}{17}$   
 b.  $-\frac{17}{15}$   
 c. -15  
(d)  $\frac{15}{17}$

$-\frac{17}{15}$

d 7. A line has x-intercept -5 and y-intercept 1. Determine the slope of a line parallel to this line.

- a. -5  
 b.  $-\frac{1}{5}$   
 c. 5  
(d)  $\frac{1}{5}$

c 8. A line passes through D(-5, 3) and N(12, -4). Determine the coordinates of two points on a line parallel to DN.

- a. (6, -10) and (24, -8)  
 b. (-10, 24) and (6, -8)  $\frac{32}{16}$   
(c) (-10, 6) and (24, -8)  $\frac{-14}{34} = \frac{-7}{17}$   
 d. (-10, 6) and (-8, 24)  $\frac{18}{2}$

a 9. Predict what will be common about the graphs of these equations.

- i)  $y = 3x + 6$   
 ii)  $y = 3x - 5$   
 iii)  $y = 3x - 6$   
 iv)  $y = 3x + 5$   
(a) All the graphs will have the same slope.  
 b. All the graphs will have the same x-intercept.  
 c. All the graphs will have the same y-intercept.  
 d. None of the above.

b 10. Write an equation for the graph of a linear function that has slope  $-\frac{1}{3}$  and y-intercept -3.

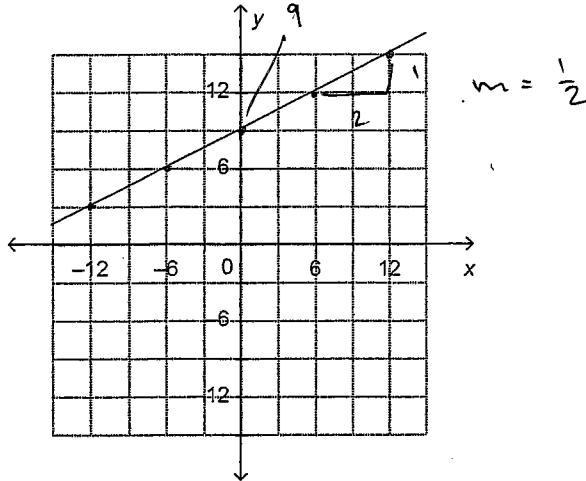
- a.  $y = -3x - \frac{1}{3}$   
(b)  $y = -\frac{1}{3}x - 3$   
 c.  $y = \frac{1}{3}x + 3$   
 d.  $y = 3x - \frac{1}{3}$

ANSWER

b 11. To join a tennis club, Josephine pays a start-up fee of \$130, plus a monthly fee of \$24. Write an equation to represent the total cost,  $C$  dollars, for  $t$  months of membership.

- a.  $t = 24C + 130$                       c.  $C = 24t - 130$   
 (b)  $C = 24t + 130$                       d.  $C = 130t + 24$

d 12. Write an equation to describe this graph.



- a.  $f(x) = -\frac{1}{2}x + 9$                       c.  $f(x) = -\frac{1}{2}x - 9$   
 b.  $f(x) = \frac{1}{2}x - 9$                       (d)  $f(x) = \frac{1}{2}x + 9$

b 13. Which equations represent perpendicular lines?

- a.  $y = 6x - 7, y = 6x + 7$                       c.  $y = 11x - 7, y = 11x + \frac{1}{7}$   
 (b)  $y = -7x + 11, y = \frac{1}{7}x + 6$                       d.  $y = \frac{1}{6}x + 6, y = 6x + 6$

b 14. Describe the graph of the linear function with this equation:  $y - 7 = -5(x + 8)$

- a. The graph is a line through  $(8, -7)$  with slope  $-5$ .  
 (b) The graph is a line through  $(-8, 7)$  with slope  $-5$ .  
 c. The graph is a line through  $(-8, 7)$  with slope  $5$ .  
 d. The graph is a line through  $(8, -7)$  with slope  $5$ .

a 15. Write this equation in slope-intercept form:  $y - 3 = -\frac{1}{5}(x + 2)$

- (a)  $y = -\frac{1}{5}x + \frac{13}{5}$                       c.  $y = -x + \frac{13}{5}$   
 b.  $y = -\frac{3}{5}x + \frac{13}{5}$                       d.  $y = \frac{1}{5}x + \frac{13}{5}$

$$3 = -\frac{1}{5}(-2) + b$$

$$5(3 = \frac{2}{5} + b)$$

$$\frac{15}{-2} = \frac{2}{-2} + \frac{5b}{-2}$$

$$\frac{13}{5} = \frac{5b}{5}$$

c 16. Determine the  $y$ -intercept of the graph of this equation:  $y - 3 = 4(x + 5)$

- a. 3                      (c) 23  
 b. -23                      d. -20

$$3 = 4(-5) + b$$

$$3 = -20 + b$$

$$\frac{+20}{+20} \quad \frac{+20}{+20}$$

$$23 = b$$

$$m = \frac{-2}{7}$$

C 17. Write an equation in slope-point form for the line that passes through A(-2, 4) and B(-9, 6).

- a.  $y - 6 = -\frac{2}{7}(x + 2)$
- b.  $y + 4 = -\frac{2}{7}(x - 2)$
- c.  $y - 4 = -\frac{2}{7}(x + 2)$
- d.  $y + 6 = \frac{2}{7}(x - 2)$

d 18. Write an equation for the line that passes through T(-3, 3) and is parallel to the line  $y = 7x - 10$ .

- a.  $y + 3 = -\frac{1}{7}(x - 3)$
- b.  $y + 3 = 7(x - 3)$
- c.  $y - 3 = -\frac{1}{7}(x + 3)$
- d.  $y - 3 = 7(x + 3)$

C 19. Write this equation in general form:  $y = 3x + 5$

- a.  $-3x + y - 5 = 0$
- b.  $3x + y + 5 = 0$
- c.  $3x - y + 5 = 0$
- d.  $3x - y - 5 = 0$

C 20. Write this equation in general form:  $y + 5 = \frac{5}{3}(x - 3)$

- a.  $5x - 3y = -8$
- b.  $5x - 3y - 8 = 0$
- c.  $5x - 3y - 30 = 0$
- d.  $5x + 3y - 30 = 0$

$$\begin{aligned} 3y + 15 &= 5x - 15 \\ -3y - 15 & \\ \hline 5x - 3y - 30 &= 0 \end{aligned}$$

a 21. Determine the slope of the line with this equation:  $7x + 3y + 5 = 0$

- a.  $\frac{7}{3}$
- b.  $\frac{3}{7}$
- c.  $\frac{7}{3}$
- d.  $-\frac{3}{7}$

b 22. Write this equation in slope-intercept form:  $10x + 3y - 4 = 0$

- a.  $y = \frac{10}{3}x + \frac{4}{3}$
- b.  $y = -\frac{10}{3}x + \frac{4}{3}$
- c.  $y = \frac{10}{3}x - \frac{4}{3}$
- d.  $y = -\frac{10}{3}x - 4$

$$y = -\frac{10}{3}x + \frac{4}{3}$$

C 23. Which equation is equivalent to  $\frac{2x - 3y - 9}{3} = 0$ ? y

- a.  $y = \frac{2}{3}x + 3$
- b.  $y + 1 = -\frac{2}{3}(x - 6)$
- c.  $y + 1 = \frac{2}{3}(x - 3)$
- d.  $y - 7 = \frac{2}{3}(x - 6)$

$$\begin{aligned} 3y + 3 &= 2x - 6 \\ -3y - 3 & \\ \hline 2x - 3y - 9 &= 0 \end{aligned}$$

C 24. A line has x-intercept -9 and y-intercept 3. Determine the equation of the line in general form.

- a.  $3x + 9y - 27 = 0$
- b.  $3x - 9y - 27 = 0$
- c.  $3x - 9y + 27 = 0$
- d.  $3x + 9y + 27 = 0$

$$m = \frac{1}{3}$$

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

$$\begin{aligned} 3y &= x + 9 \\ -3y & \\ \hline 3(x - 3y + 9) &= 0 \end{aligned}$$

$$3(x - 3y + 9) = 0 \rightarrow 3x - 9y + 27$$