Chapter 3 Test

Multiple Choice

For each question, select the best answer.

1. The y-intercept for $y = -2x - 3$ is:
    A -2
    B 2
    C -3
    D 3

2. The slope and the y-intercept for $y = 5x - 4$ are:
    A $m = 5, b = 4$
    B $m = -5, b = -4$
    C $m = -5, b = 4$
    D $m = 5, b = -4$

3. The rate of change for $y = 2 - x$ is
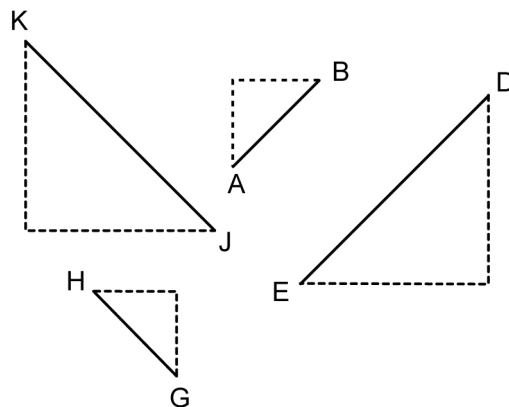   A 2
    B 1
    C 0
    D -1

4. The equation for the line with a slope of 0.5 and y-intercept of -4 is
    A $y = 0.5x + 4$
    B $y = 0.5x - 4$
    C $y = 4x - 0.5$
    D $y = -4x + 0.5$

5. The equation of the line through A(0, -2), B(8, -10) is
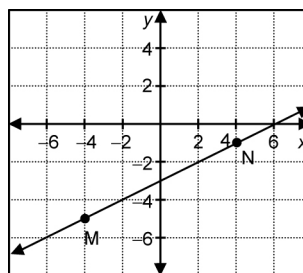   A $y = x + 2$
    B $y = x - 2$
    C $y = -x - 2$
    D $y = -x + 2$

6. Which line segments have a positive slope?

    A AB, DE
    B GH, JK
    C DE, GH
    D JK, AB

7. Identify the statement which is true for this graph:

    A The y-intercept is -3.
    B The slope is negative.
    C The x-intercept is positive.
    D The run is 16 units.
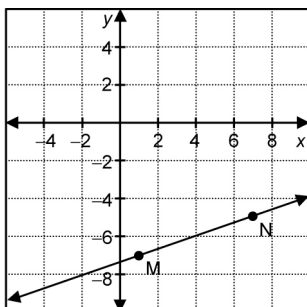
Name: _____   Date: _____

Short Response

8. Determine the rise and the run then calculate the slope of the line segment.

9. Determine the equation of each line.
   a) $m = -5$, $b = 0$
   b) $m = -2$, y-intercept is 2
   c) slope is 3, $b = -3$
   d) slope is 3, y-intercept is -1

10. Solve for the values of y, given the values of x.
   a) $y = \dfrac{1}{3}x - 2$, when $x = -12$ and $x = 0$
   b) $y = -x - 4$, when $x = -4$ and $x = 4$

11. Write an equation for the line passing through each pair of points.
   a) A(2, 4), B(–2, –4)
   b) G(0, –1), H(7, 8)

12. Determine the equation of the line given the slope and the coordinates of one point on the line.
   a) $m = 6$, M(0, 4)
   b) $m = 5$, H(0, 0)

Extended Response

13. Jerome paints fences during the summer. He gets paid $30 for each fence he paints. The cost for paint is $12 for every fence. His profit is equal to his earnings minus his costs.
   a) On grid paper, make a graph of Jerome's total profit from one fence to five fences.
   b) Write an equation for the line representing Jerome's total profits per fence.
   c) How much money does Jerome earn after painting 12 fences?
   d) How many fences would Jerome have to paint to earn $360?

14. Jorge enters himself in a pie-eating contest every summer. It takes him 1.5 min to eat the first pie. But each time he eats a pie, his stomach gets fuller, and he takes 0.5 min longer to finish each additional pie.
   a) Create a graph of the linear relation that models the time taken to eat 5 pies.
   b) Write an equation that represents the time taken for each pie eaten.
   c) How long does it take Jorge to eat 8 pies?