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#### ALGEBRA 1A

### Multiple Choice.

1. Which of the following points does the line y = -x + 5 pass through?a. (0, 0)b. (0, 5)c. (-5, 0)d. (0, -5)

#### 2. Which graph does not represent a function?



- 3.  $\overline{AB}$  has a slope of 2. What is the slope of a line perpendicular to  $\overline{AB}$ ? a. -2 b.  $-\frac{1}{2}$  c.  $\frac{1}{2}$  d. 2
- 4. If (a, 3) is a point on the graph of the equation 2x + 3y = 5, then the value of a is a. 1 b. 7 c. 2 d. -2

- 5. A line is represented by the equation y = 3x 7. Which statement about the line is true?
  - a. This line is parallel to the line whose equation is y = 2x 7.
  - b. The slope of the line is  $\frac{1}{3}$ .
  - c. Point (1, 4) lies on the line.
  - d. The *y*-intercept is –7.

## 6. Which phrase describes the graph of y = -1 on the coordinate plane?

- a. a line parallel to the *x*-axis and 1 unit above it.
- b. a line parallel to the *x*-axis and 1 unit below it.
- c. a line parallel to the *y*-axis and 1 unit to the right of it.
- d. a line parallel to the *y*-axis and 1 unit to the left of it.

- 7. In the diagram at right, which is an equation of the line *l*?
  - a. x + y = 3b. x - y = 3d. y = 3c. x = 3
- 8. Categorize the slope of the seven line segments (a g) in the figure as positive, negative, zero or no slope.



Determine the slope of the line that passes through each pair of points. 9. (6, 7) and (4, 2) 10. (1, 2) and (-1, 5)

11. Identify the *y*-intercept and *x*-intercept of the line given by the equation:  $y = \frac{1}{2}x + 3$ 

12. Does the set of ordered pairs {(1, 7), (5, 7), (-6, 2), (5, -12)} represent a function? Explain why or why not.

13. Write the equation of the line in the graph at right.



14. If 
$$f(x) = 5x - 3$$
, find  $f(4)$ .

15. If  $g(x) = x^2 - 3x + 1$ , find g(-2).

Write the equation of the line in slope intercept form.16. slope of -2; y-intercept of 917. m =  $\frac{2}{3}$  and through the point (9, 4)

18. parallel to 2y - 3x = 6 and has a *y*-intercept of 3

# Write the equation of the line in standard form.

19. through (5, 2) and (4, -3) 20. Slope =  $-\frac{2}{5}$ , *y*-intercept = -5

21. perpendicular to 
$$y = -\frac{1}{4}x + 1$$
 and through (-1, 0)

# 22. Graph the following line. Include all necessary steps.

2x - y = 5



23. Graph: *x* = -3

24. Graph: 6y = -30