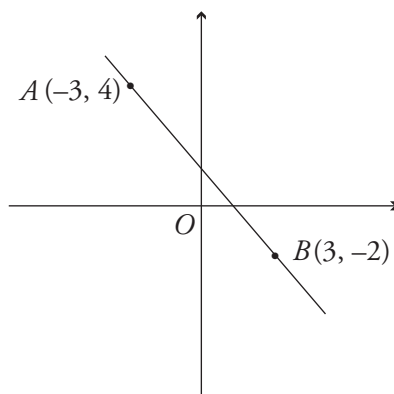# Drill 4

Answers can be found in Part IV.

a. How many units do you count up (rise) to get from point *B* to point *A*?
    _____

b. How many units must you count over (run) to get from point *A* to point *B*?
    _____

c. What is the slope of the line above? _____

    (Remember, the line is going down to the right, so it must have a negative slope.)

d. What would be the slope of a line parallel to *AB*? _____

e. What would be the slope of a line perpendicular to *AB*? _____

f. What is the distance from point *A* to point *B*? _____

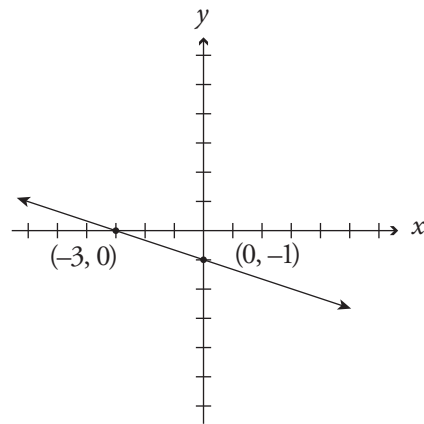g. What is the midpoint of line segment *AB*? _____

2

If $y = 6x + 3$ and $y = cx + 3$ are the equations of perpendicular lines, then what is the value of c ?

A) -6

B) $-\dfrac{1}{6}$

C) $\dfrac{1}{6}$

D) 6

6

(−3, 0)   (0, −1)

Line l is shown in the graph above. If line m is parallel to line l, which of the following could be the equation of line m ?

A) $y = -3x - 1$

B) $y = -\dfrac{1}{3}x + 2$
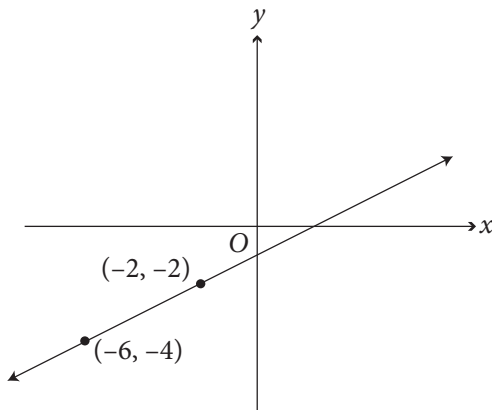
C) $y = \dfrac{1}{3}x - 3$

D) $y = 3x + 2$

3

What is the y-intercept of the line with equation $2x + 3y = 12$?

A) 4

B) 3

C) 2

D) $\dfrac{1}{4}$

12

What is the x-intercept of the line in the graph above?

A) −1

B) 0

C) 1

D) 2

7
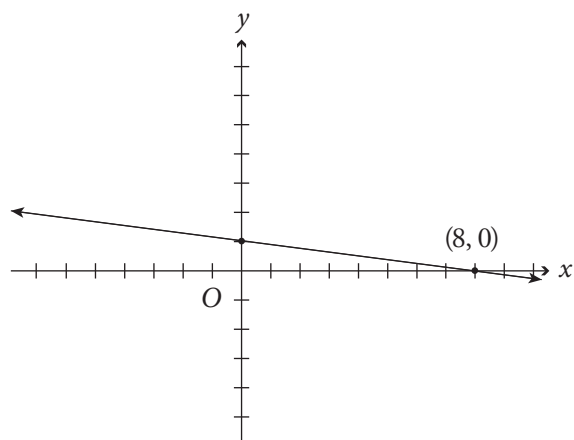
Which of the following could be the equation of the line in the graph above?

A) $2y - x = -8$

B) $4y + x = -8$

C) $8y - 3x = 8$

D) $8y + x = 8$

14
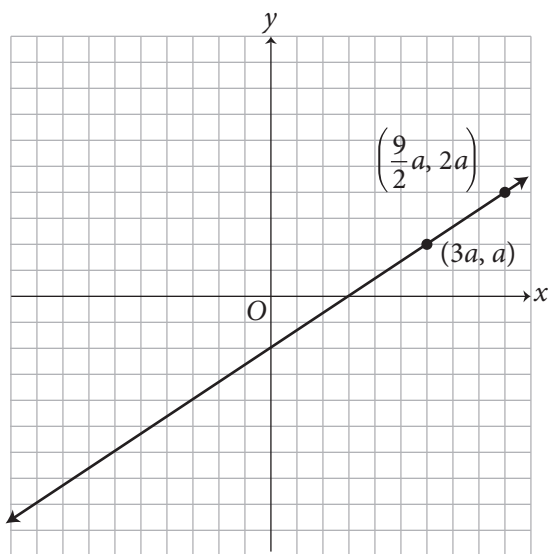

$\left(-\dfrac{7}{2}, \dfrac{16}{3}\right)$

$\left(\dfrac{11}{2}, -\dfrac{17}{3}\right)$
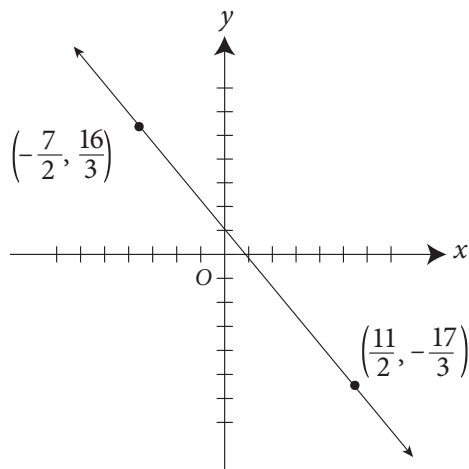
Which of the following is the slope of the line in the graph above?

A) $-\dfrac{11}{6}$

B) $-\dfrac{11}{9}$

C) $-\dfrac{9}{8}$

D) $-\dfrac{9}{11}$

15

The graph of a line is shown in the *xy*-plane above. It contains the points (3*a*, *a*) and $\left(\frac{9}{2}a, 2a\right)$, where *a* is a positive constant. Which of the following could be the equation of this line?

A) $y = \frac{2}{3}x - 2$

B) $y = \frac{2}{3}x + 2$

C) $y = \frac{4}{3}x - 2$

D) $y = \frac{3}{2}x - 2$

17

$$y = 4x^2 - 6x + 4$$
$$y = 2x + 4$$

The equations above intersect at two points. What is the product of the *y*-coordinates of the two points of intersection?

CHARTS AND GRAPHS

Another basic math skill you will need for the PSAT is the ability to read charts and graphs. The PSAT includes charts, graphs, and tables throughout the test (not just in the Math sections) to present data for students to analyze. The test-writers believe this better reflects what students learn in school and need to understand in the real world. The situations will typically include real-life applications, such as finance and business situations, social science issues, and science.

Since you'll be seeing graphics throughout the test, let's look at the types you may encounter and the skills you'll need to be familiar with when you work with charts and graphs.

The Scatterplot

A scatterplot is a graph with distinct data points, each representing one piece of information. On the scatterplot below, each dot represents the number of televisions sold at a certain price point.