

SOLUTIONS

Chapter 5 Review Sheet

1) Determine which of the following lines, if any, are parallel or perpendicular.

Line a: $y = 6x - 1$

Line b: $y = -\frac{1}{6}x$

Line c: $y = -6x + 5$

ANSWER: Line A is perpendicular to line B.

2) You are training to run in your first marathon and you want to gradually increase the number of miles you run each week. Currently, you run 16 miles. Your plan is to run 5 additional miles each week.

a) Write an equation that gives the total number of miles you run each week as a **function** of the number of weeks you have been running since you started increasing the number of miles you run each week.

ANSWER: $f(x) = 5x + 16$

b) Find the total number of miles you are running each week after 8 weeks of increasing the number of miles you run each week.

ANSWER: 56 miles

Write an equation of the line in point-slope form that passes through the given points.

3) (0,1) and (3, -5)

4) (2,-13) and (-3, 12)

**ANSWER: $y - 1 = -2(x)$ or
 $y + 5 = -2(x - 3)$**

**ANSWER: $y - 12 = -5(x + 3)$ or
 $y + 13 = -5(x - 2)$**

Write an equation of the line in slope-intercept form with the given slope and y-intercept.

5) $m = -4$ and $y\text{-int} = 8$

6) $m = -3/2$ and $y\text{-int} = -4/5$

ANSWER: $y = -4x + 8$

ANSWER: $y = -3/2x - 4/5$

Find the x and y intercepts for the given equations. Leave answers as coordinates (**hint: there should be two ordered pairs for each problem**).

7) $8x + 2y = 16$

8) $y = 2x - 6$

**ANSWER: x intercept (2, 0)
and y intercept (0, 8)**

**ANSWER: x intercept (3, 0) and
y intercept (0, -6)**

Write an equation for the linear function, f , with the given values.

9) $f(-2) = 4$ and $f(0) = 6$

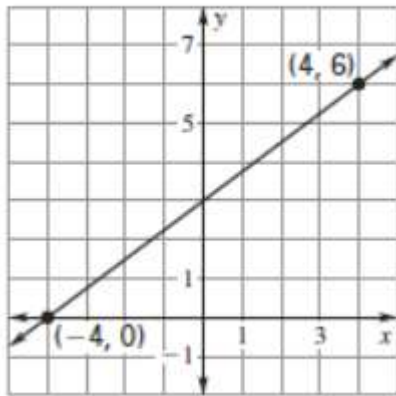
10. $f(3) = 1$ and $f(4) = 0$

ANSWER: $y = x + 6$

ANSWER: $y = -x + 4$

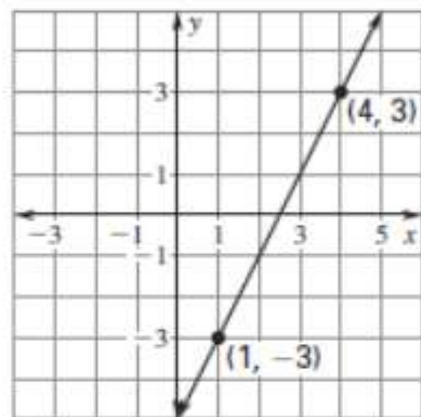
Find the equation of the given graphs.

11)



ANSWER: $y = \frac{3}{4}x + 3$

12)



ANSWER: $y = 2x - 5$

Write an equation of the line that passes through the given point and is parallel to the given line.

13) $(4, 7)$ and $y = 5x - 3$

14) $(0, -8)$ and $8x + 4y = 5$

ANSWER: $y = 5x - 13$

ANSWER: $y = -2x - 8$

Write an equation of the line that passes through the given point and is perpendicular to the given line.

15) $(2, 9)$ and $4x + y = 3$

16) $(3, 2)$ and $y = -x + 2$

ANSWER: $y = \frac{1}{4}x + \frac{17}{2}$

ANSWER: $y = x - 1$

Write an equation in standard form that passes through the given points.

17) $(7, -3)$ and $(4, 1)$

18) $(-1, 2)$ and $(5, 4)$

ANSWER: $4x + 3y = 19$

ANSWER: $x - 3y = -7$

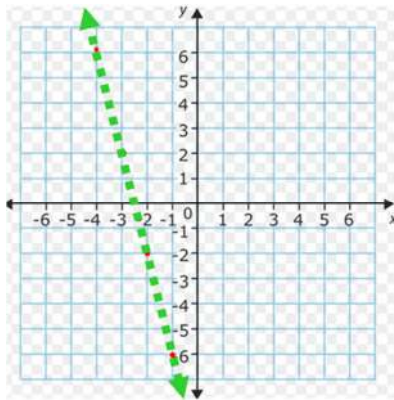
Graph the following:

19) $y - 2 = -4(x + 3)$

ANSWER:

Slope is -4

The point is (-3, 2)

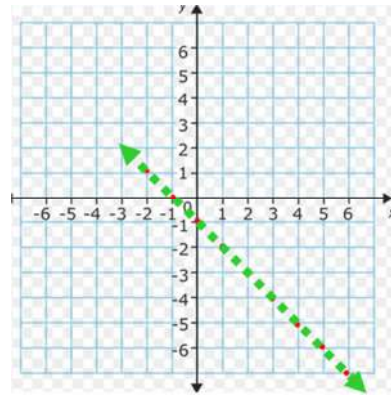


20) $y + 2 = -(x - 1)$

ANSWER:

Slope is -1

The point is (1, -2)



Write an equation of the line in standard form that passes through the given point and slope.

21) $(-8, 1)$ and $m = -3/4$

ANSWER: $3x + 4y = -20$

22) $(-1, 6)$ and $m = 5$

ANSWER: $5x - y = -11$