

Chapter 3 Prerequisite Skills

1. Perform the indicated operations. Simplify each answer.

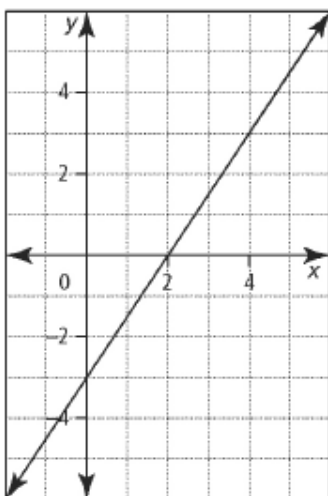
a) $7x^2 - 3x + x^2 - x$

b) $(4x - 3)(x + 7)$

c) $(2x - 5)^2$

d) $(x - 1)^2 - (2x + 3)(x - 4)$

2. Use the graph to help answer the following questions.



- What is the value of the y -intercept?
- What is the slope of the line?
- What is the equation of the line using the form $y = mx + b$?
- What is the range of the linear function shown on the graph?
- What is the x -intercept?

3. If $m = -\frac{2}{5}$ and $(1, 4)$ is a point on the line, what are the coordinates of another point on the line that is in the fourth quadrant?

4. Determine the equation of a line that satisfies the following conditions. Leave each answer in the form $Ax + By + C = 0$

a) The line has a slope of $-\frac{3}{4}$ and a y -intercept of 2.

b) The line passes through the points $(-1, 0)$ and $(2, -6)$.

5. Write each equation in the form $y = mx + b$. Give the value of the slope and y -intercept.

a) $3x + y - 4 = 0$ b) $3x - 7y = 1$

c) $3x - 4y = 0$

6. For each equation, write it in the form $Ax + By + C = 0$, where A , B , and C are integers. Give the values of A , B , and C .

a) $y = -5x + 2$ b) $y = \frac{2x}{3} - 7$

c) $-1 = 4y - \frac{3}{4}x$

Chapter 8 Prerequisite Skills

1. What are the slope and y -intercept of each line?

a) $y = -3x + 4$ b) $y = \frac{2}{5}x - \frac{1}{3}$

c) $3x - 2y = 7$ d) $4.2 - 2y = 3.6x$

2. Write the equation of each line, using the given information.

a) passing through $(-3, 1)$ with slope, $m = -2$

b) passing through $(3, -4)$ and perpendicular to $y = \frac{3}{2}x - 7$

BLM 3–2 Chapter 3 Prerequisite Skills

1. a) $8x^2 - 4x$ b) $4x^2 + 25x - 21$

c) $4x^2 - 20x + 25$ d) $-x^2 + 3x + 13$

2. a) -3 b) $m = \frac{3}{2}$ c) $y = \frac{3}{2}x - 3$

d) all real numbers or $\{y \mid y \in \mathbb{R}\}$ e) 2

3. Example: $(14, -1.2)$, $(19, -3.2)$

4. a) $3x + 4y - 8 = 0$ b) $2x + y + 2 = 0$

5. a) $y = -3x + 4$; $m = -3$; y -intercept = 4

b) $y = \frac{3}{7}x - \frac{1}{7}$; $m = \frac{3}{7}$; y -intercept = $-\frac{1}{7}$

c) $y = \frac{3}{4}x$; $m = \frac{3}{4}$; y -intercept = 0

6. a) $5x + y - 2 = 0$; $A = 5$, $B = 1$, $C = -2$

b) $-2x + 3y + 21 = 0$; $A = -2$, $B = 3$, $C = 21$

c) $3x - 16y - 4 = 0$; $A = 3$, $B = -16$, $C = -4$

BLM 8–2 Chapter 8 Prerequisite Skills

1. a) $m = -3$, y -intercept = 4

b) $m = \frac{2}{5}$, y -intercept = $-\frac{1}{3}$

c) $m = \frac{3}{2}$, y -intercept = $-\frac{7}{2}$

d) $m = -1.8$, y -intercept = 2.1

2. a) $y = -2x - 5$ b) $y = -\frac{2}{3}x - 2$

3. a) $x + y = 752$ b) $a + c = 256$
 $x - y = 174$ $5a + 3c = 767$

c) $q + l = 73$ d) $75 + 15m = C$
 $0.25q + l = 37$ $35m = C$

4. a) None. The lines have the same slope, but different y -intercepts, so the lines are parallel.

b) Infinite. The equations are multiples of each other, so the lines are congruent.

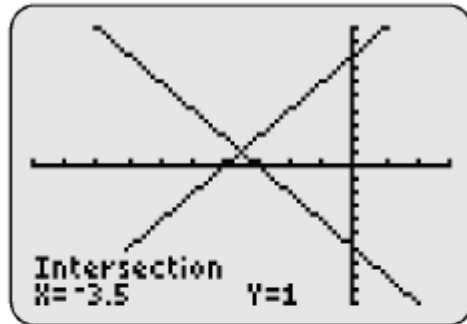
c) Infinite. The equations are multiples of each other, so the lines are congruent.

d) One. These are linear equations with different slopes and y -intercepts, so the lines intersect.

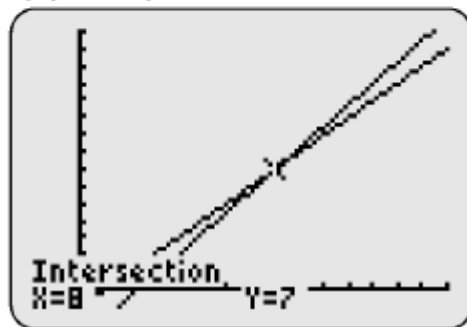
6. a) (3, 8) b) $(\frac{2}{9}, -\frac{4}{3})$ c) (6.5, 4.5) d) (1.5, -1)

7. a) (4, -13) b) (1.5, 0) c) $(\frac{18}{7}, \frac{8}{7})$ d) (-5, 2)

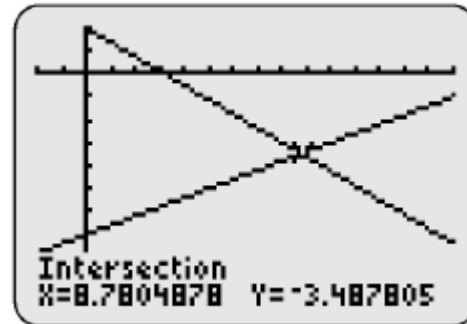
5. a) (-3.5, 1.0)



b) (8.0, 7.0)



c) (8.8, -3.5)



d) (-21.3, 16.5)

