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BLM 7–12

Chapter 7 BLM Answers

BLM 7–2 Chapter 7 Prerequisite Skills

1. a) 12 **b)** 10 **c)** 6 **d)** 18 **e)** 30 **f)** 16 **g)** 60 **h)** 18

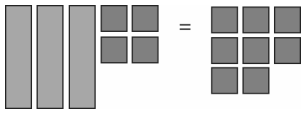
2. a) 4 **b)** –1 **c)** –2 **d)** –3 **e)** –10 **f)** –14

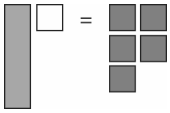
3. a) $2 + 7r + 4z$ **b)** $9y - 3$ **c)** $-3 + 4r$ **d)** $x + 3y + 4$
e) $-5k - 5t + 2$ **f)** $-8t + 22$ **g)** $6x - 8y - 6z$
h) $4q + 4p - 1$

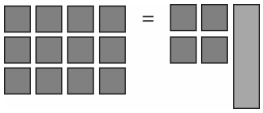
4. a) $3x + 6$ **b)** $13q + 6$ **c)** $-11p + 17$
d) $11k - 11$ or $11(k - 1)$ **e)** $10e - 6$ or $2(5e - 3)$
f) $20k + 24$ or $4(5k + 6)$ **g)** $-7x + 20$ **h)** $7r + 11$

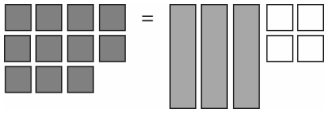
5. a) 5 **b)** 7 **c)** 1 **d)** –9 **e)** 0 **f)** $\frac{5}{2}$

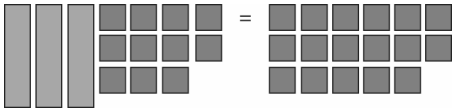
6. Shaded tiles are positive and white tiles are negative.

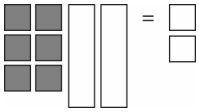
a) 

b) 

c) 

d) 

e) 

f) 

BLM 7–3 Chapter 7 Warm-Up

Section 7.1

1. a) $\frac{1}{2}$ **b)** $-\frac{5}{2}$ **c)** undefined

2. a) $-\frac{2}{3}$ **b)** 2

3. a) x-intercept: (9, 0), y-intercept: (0, 6)
b) x-intercept: (1, 0), y-intercept: (0, –2)

4. a) \$240 **b)** \$400
c) Example: Let C represent the cost, in dollars. Let t represent time, in hours. $C = 200 + 4t$

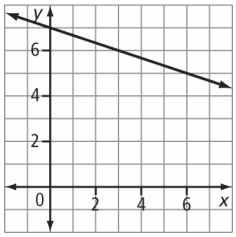
5. a) $\frac{P - 2w}{2} = l$ or $\frac{P}{2} - w = l$ **b)** $d = \frac{C}{\pi}$

Section 7.2

1. a) $y = -\frac{2}{3}x + 6$ **b)** $y = 2x - 2$

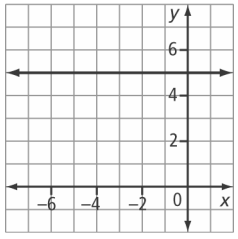
2. a) $y = -4$ **b)** $x = 5$

3. a)



$y = -\frac{1}{3}x + 7$

b)



$y = 5$

4. a) $x = -\frac{9}{2}$ **b)** $x = -28$

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

Section 7.3

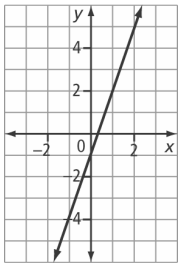
1. a) $2x - 3y + 3 = 0$ **b)** $x + 5y + 15 = 0$

2. a) $2x - y + 13 = 0$ **b)** $4x - y - 6 = 0$

3. a) $3x - 12$ **b)** $4x - 4$

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

5. a)



$y = 3x - 1$

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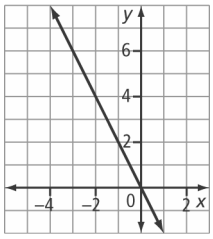
b) 

$y = -2x$

Section 7.4

1. a) 3 **b)** $\frac{2}{5}$

2. a) $y - 5 = \frac{2}{3}(x + 1)$ **b)** $y - 2 = \frac{1}{4}(x - 4)$ or $y - 3 = \frac{1}{4}(x - 8)$

3. a) $y = -4x + 15$ **b)** $y = -\frac{1}{2}x + 6$

4. $4x + y - 19 = 0$

5. a) $-\frac{5}{4}$ **b)** $\frac{1}{3}$ **c)** 5

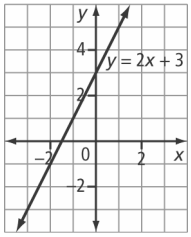
BLM 7–6 Section 7.1 Extra Practice

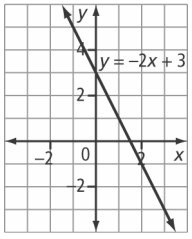
1. a) $m = 5$, y-intercept: (0, –3)

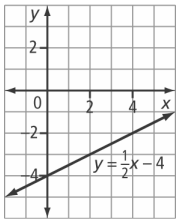
b) $m = 0.1$, y-intercept: (0, –5.7)

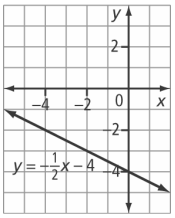
c) $m = \frac{1}{3}$, y-intercept: (0, 4)

d) $m = -\frac{3}{4}$, y-intercept: $\left(0, \frac{1}{2}\right)$

2. a) 

b) 

c) 

d) 

3. a) $y = -\frac{4}{5}x + 4$; $m = -\frac{4}{5}$, y-intercept: (0, 4)

b) $y = \frac{1}{2}x + 4$; $m = \frac{1}{2}$, y-intercept: (0, 4)

c) $y = \frac{2}{3}x - 2$; $m = \frac{2}{3}$, y-intercept: (0, –2)

d) $y = 5x - 12$; $m = 5$, y-intercept: (0, –12)

4. a) $y = 2x - 5$ **b)** $y = 6$ **c)** $y = -\frac{1}{3}x$ **d)** $y = -6x + 2$

5. a) $y = \frac{1}{3}x + \frac{1}{2}$; $2x - 6y = -3$

b) $y = -\frac{2}{5}x + \frac{1}{4}$; $8x + 20y = 5$

6. a) $m = 1$, y-intercept: (0, –2); $y = x - 2$

b) $m = \frac{3}{2}$, y-intercept: (0, –1); $y = \frac{3}{2}x - 1$

c) $m = -2$, y-intercept: (0, 3); $y = -2x + 3$

d) $m = -\frac{1}{2}$, y-intercept: (0, –2); $y = -\frac{1}{2}x - 2$

7. a) $y = 2x + 2$ **b)** $y = -\frac{9}{2}x - 3$ **c)** $y = x + 4$

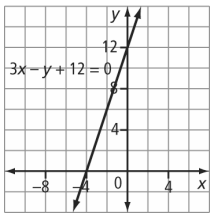
BLM 7–7 Section 7.2 Extra Practice

1. a) $3x + y - 5 = 0$ **b)** $2x - 3y - 12 = 0$

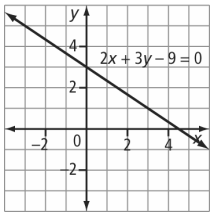
c) $9x + 6y - 2 = 0$ **d)** $8x - 20y - 3 = 0$ **e)** $y - 1 = 0$

f) $x + 2 = 0$

2. a) x-intercept: (–4, 0), y-intercept: (0, 12)



b) x-intercept: $\left(\frac{9}{2}, 0\right)$, y-intercept: (0, 3)



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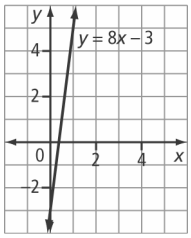
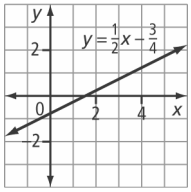
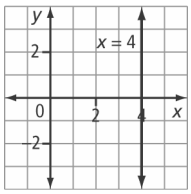
c) x-intercept: $\left(\frac{3}{8}, 0\right)$, y-intercept: $(0, -3)$



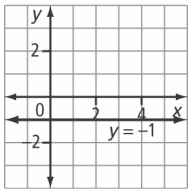
d) x-intercept: $\left(\frac{3}{2}, 0\right)$, y-intercept: $\left(0, -\frac{3}{4}\right)$



3. a) x-intercept: (4, 0), no y-intercept; domain $\{4\}$, range $\{y \in \mathrm{R}\}$

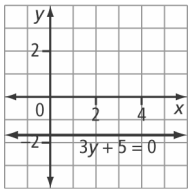


b) no x-intercept, y-intercept: $(0, -1)$; domain $\{x \in \mathrm{R}\}$, range $\{-1\}$

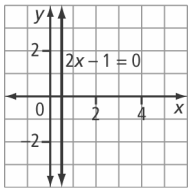


c) no x-intercept, y-intercept: $\left(0, -\frac{5}{3}\right)$;

domain $\{x \in \mathrm{R}\}$, range $y = \left\{-\frac{5}{3}\right\}$

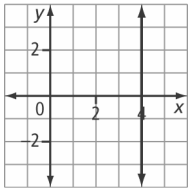


d) x-intercept: $\left(\frac{1}{2}, 0\right)$, no y-intercept; domain $\left\{\frac{1}{2}\right\}$, range $\{y \in \mathrm{R}\}$



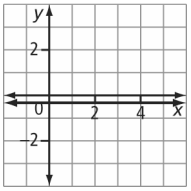
4. a) $x - 3 = 0$ **b)** $y + 2 = 0$

5. a)



$x - 4 = 0$

b)



$3y + 1 = 0$

6. a) E **b)** A **c)** C **d)** B **e)** D

7. a) $x + 1 = 0$ **b)** $y - 2 = 0$

BLM 7–9 Section 7.3 Extra Practice

1. a) $y = 5x - 11$, $5x - y - 11 = 0$

b) $y = \frac{3}{4}x + \frac{1}{2}$, $3x - 4y + 2 = 0$

c) $y = x - \frac{9}{2}$, $2x - 2y - 9 = 0$

d) $y = 2x - \frac{18}{5}$, $10x - 5y - 18 = 0$

2. a) $y - 3 = 2(x - 3)$ **b)** $y - 1 = -\frac{1}{2}(x - 2)$

c) $y - 3 = \frac{2}{7}(x - 5)$

3. a) $y - 4 = -5(x + 3)$; $y = -5x - 11$; $5x + y + 11 = 0$

b) $y - 1 = 2\left(x - \frac{1}{2}\right)$; $y = 2x$; $2x - y = 0$

c) $y - 3 = 3(x - 0)$; $y = 3x + 3$; $3x - y + 3 = 0$

d) $y - 0 = \frac{1}{2}(x + 5)$; $y = \frac{1}{2}x + \frac{5}{2}$; $x - 2y + 5 = 0$

4. a) $y = x - 3$; $x - y - 3 = 0$

b) $y = -\frac{1}{3}x + 5$; $x + 3y - 15 = 0$

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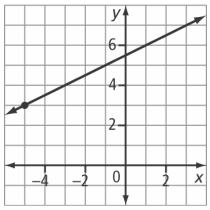
(continued)

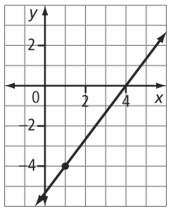
c) $y = 2x + 10$; $2x - y + 10 = 0$

d) $y = -\frac{1}{3}x + \frac{7}{3}$; $x + 3y - 7 = 0$

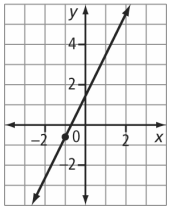
5. a) $m = \frac{1}{2}$, $(-5, 3)$



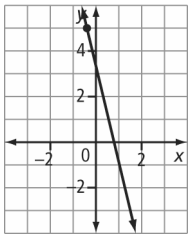
b) $m = \frac{4}{3}$, $(1, -4)$



c) $m = 2$, $\left(-1, -\frac{2}{3}\right)$



d) $m = -4$, $(-0.4, 5)$



6. a) $y + 6 = 0(x + 5)$; $y = -6$

b) $y - 1 = 2(x - 4)$; $y = 2x - 7$

c) $y - 0 = -\frac{1}{2}(x - 4)$; $y = -\frac{1}{2}x + 2$

7. a) $y - 5 = -\frac{15}{4}(x - 0)$; $15x + 4y - 20 = 0$

b) $y - 4 = \frac{4}{5}(x - 0)$; $4x - 5y + 20 = 0$

c) $y - 0 = \frac{2}{5}(x - 0)$; $2x - 5y = 0$

BLM 7–10 Section 7.4 Extra Practice

1. a) $3, -\frac{1}{3}$ **b)** $-4, \frac{1}{4}$ **c)** $\frac{1}{3}, -3$ **d)** $0.4, -2.5$

2. a) $2, -\frac{1}{2}$ **b)** $\frac{3}{4}, -\frac{4}{3}$ **c)** $-\frac{1}{4}, 4$ **d)** $-\frac{2}{5}, \frac{5}{2}$

3. a) $12, -\frac{3}{4}$ **b)** $1, -1$ **c)** $2.5, -10$ **d)** $9, -25$

4. a) Parallel; the slopes are equal.
b) Neither; the slopes are not equal and they are not negative reciprocals.
c) Parallel; the slopes are equal.
d) Perpendicular; the slopes are negative reciprocals.

5. a) $y = 4x - 11$ **b)** $y = -\frac{2}{3}x + 2$ **c)** $x = 4$

6. a) $y = -\frac{1}{3}x + \frac{13}{3}$ **b)** $y = \frac{1}{2}x + 5$ **c)** $x = -1$

7. a) $y - 5 = 0$ **b)** $x - 1 = 0$ **c)** $3x - 4y - 24 = 0$
d) $3x - y - 10 = 0$

8. a) Rectangle. Example: The opposite sides are parallel and the adjacent sides are perpendicular.
b) line AB: $y = \frac{2}{5}x + \frac{17}{5}$, line BC: $y = -\frac{5}{2}x + \frac{1}{2}$, line CD: $y = \frac{2}{5}x - \frac{41}{5}$, line AD: $y = -\frac{5}{2}x - 14$

BLM 7–11 Chapter 7 Test

1. C **2.** D **3.** B **4.** C **5.** A **6.** 3 **7.** 5 **8.** 8

9. a) $m = 0$, y-intercept: $(0, 6)$ **b)** $m = -\frac{3}{4}$, y-intercept: $(0, 1)$ **c)** $m = 2$, y-intercept: $(0, -3)$
d) slope is undefined, no y-intercept

10. a) $\frac{11}{3}$ **b)** $-\frac{2}{3}$

11. a) $-\frac{1}{2}$ **b)** $\frac{5}{3}$

12. a) It represents the balloon's height of 3 m above ground before it begins rising, at time 0 s.
b) $\{t \mid t \geq 0, t \in \mathrm{R}\}$; Example: Since time is positive, this results in a restriction on the height of the balloon.
c) 18 m **d)** 16 s