BLM Answers

BLM 3.GR.1: Get Ready

Common Factors

1. a) 1, 5, 11, 55
b) 1, 2, 3, 6, 9, 18
c) 1, 2, 3, 4, 6, 8, 9, 12, 18, 36
d) 1, 2, 3, 4, 6, 8, 12, 24
e) 1, 3, 7, 9, 21, 63
f) 1, 2, 3, 4, 6, 12

2. a) 16   **b)** 8   **c)** 6
d) 9   **e)** 15   **f)** 6

Operations With Fractions and Decimals

3. a) $\dfrac{9}{11}$ **b)** $\dfrac{5}{8}$ **c)** $\dfrac{3}{4}$

d) $\dfrac{1}{3}$ **e)** $\dfrac{2}{7}$ **f)** $\dfrac{5}{9}$

4. a) 0.75   **b)** 0.125   **c)** 0.2
d) 0.7   **e)** 0.6   **f)** 0.166

5. a) $\dfrac{7}{20}$ **b)** $\dfrac{9}{20}$ **c)** $\dfrac{1}{5}$

d) $\dfrac{1}{4}$ **e)** $\dfrac{1}{10}$ **f)** $\dfrac{3}{4}$

Operations With Integers

6. a) 3   **b)** 6   **c)** 0
d) 0   **e)** 2   **f)** 34

7. a) $\dfrac{-1}{2}$ **b)** -1 **c)** $\dfrac{-1}{2}$

d) 1   **e)** $\dfrac{-1}{11}$ **f)** $\dfrac{1}{2}$

Graphing on a Coordinate Grid

8. A (−5, 4), B(0, 1), C(1, 3), D(5, 1), E(−2, −4), F(−4, 0)

9.
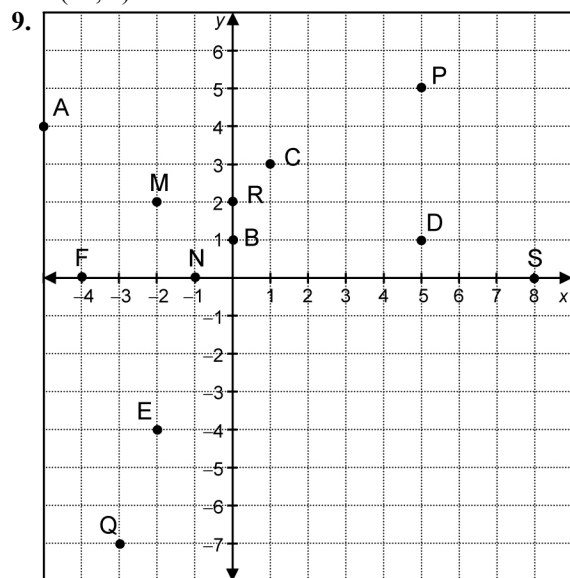
Working With Variables

10. a) $x = -1$ **b)** $x = 4$ **c)** $x = 4$
d) $x = -10$ **e)** $x = -1$ **f)** $x = 4$

11. a) 10   **b)** 7   **c)** −2
d) 6   **e)** 0   **f)** 0

BLM 3.1.1: Slope as a Rate of Change

1. a) rise = 6, run = 10, slope = 0.6
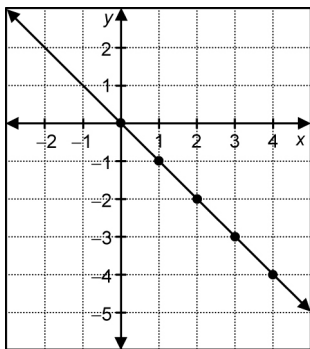**b)** rise = −4, run = 12, slope = −0.3333

2. a)

x	y
0	−4
1	1
2	6
3	11
4	16
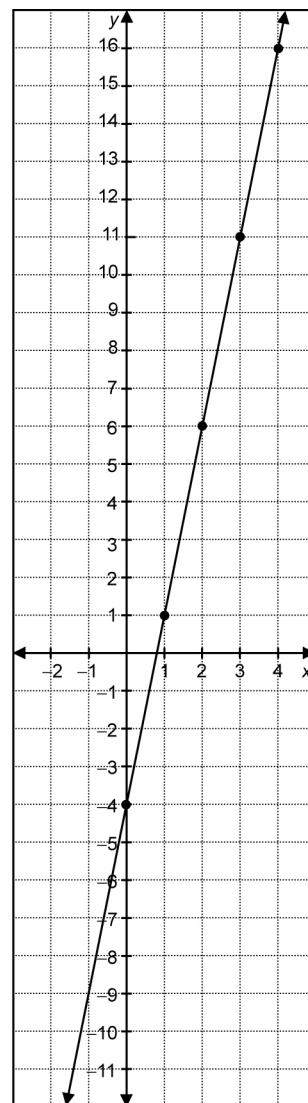
BLM Answers

b)

x	y
0	0
1	−1
2	−2
3	−3
4	−4

c)

x	y
0	2
1	3
2	4
3	5
4	6
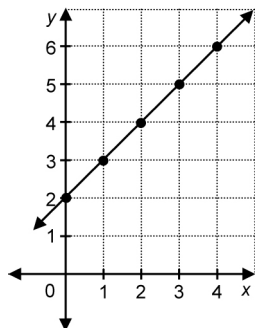
d)

x	y
0	1
1	−3
2	−7
3	−11
4	−15
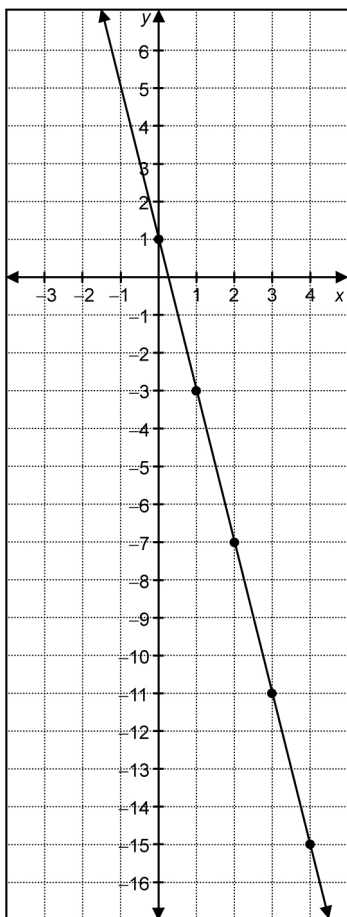
3. a) slope = 5   **b)** slope = −1
   c) slope = 1   **d)** slope = −4

4. NM slope = 0.75
   UV slope = −4
   AB slope = 1.375
   CD slope = 1

5. a) Rate of change is 3.

x	y	Rate of change
0	4	
1	7	7 − 4 = 3
2	10	10 − 7 = 3
3	13	13 − 10 = 3
4	16	16 − 13 = 3

b) Rate of change is −1.

x	y	Rate of change
0	2	
1	1	1 − 2 = −1
2	0	0 − 1 = −1
3	−1	−1 − 0 = −1
4	−2	−2 − (−1) = −1

c) Rate of change is 3.

x	y	Rate of Change
0	5	
1	8	8 − 5 = 3
2	11	11 − 8 = 3
3	14	14 − 11 = 3
4	17	17 − 14 = 3

d) Rate of change is −6.

x	y	Rate of change
0	0	
1	−6	−6 − 0 = −6
2	−12	−12 − (−6) = −6
3	−18	−18 − (−12) = −6
4	−24	−24 − (−18) = −6

BLM Answers

6. a)

b)
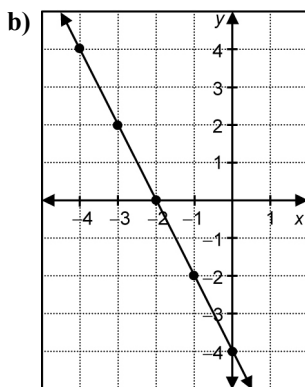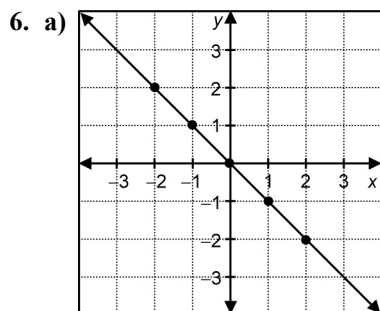
7. a) Rate of change is 5.

b)
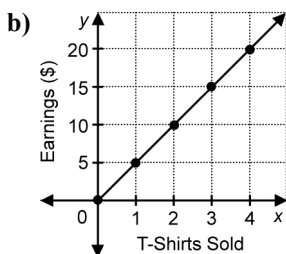
c) rise = 20, run = 4, slope = 5

BLM 3.2.1: Investigate the Slope and *y*-Intercept Using Technology

1. a) 10   **b)** –3   **c)** $\dfrac{5}{6}$ **d)** –4

2. a) 1.2   **b)** 0   **c)** 1   **d)** –0.75

3. When $x = 0$
   a) $y = 8$ **b)** $y = -2$ **c)** $y = 2$ **d)** $y = 0$

4. a) $y = 5x + 6$ **b)** $y = 0.6x + 2$

   c) $y = \dfrac{3}{5}x - 3$ **d)** $y = -8x$

5. a) $y = 5x + 6$ **b)** $y = 0.6x + 2$

x	y
0	6
1	11
2	16
3	21
4	26
5	31
6	36

x	y
0	2
1	2.6
2	3.2
3	3.8
4	4.4
5	5
6	5.6

c) $y = \dfrac{3}{5}x - 3$ **d)** $y = -8x$:

x	y
0	–3
1	–2.4
2	–1.8
3	–1.2
4	–0.6
5	0
6	0.6

x	y
0	0
1	–8
2	–16
3	–24
4	–32
5	–40
6	–48

6. a) $y = 2x - 4$ **b)** $y = -x$ **c)** $y = \dfrac{4}{9}x + \dfrac{24}{9}$

BLM 3.3.1: Properties of Slopes of Lines

1. Line segments AB and GH each have a positive slope.
Line segments DE and JK each have a negative slope.

2. a) positive   **b)** negative
   c) positive   **d)** zero

3. a) GH   **b)** AB   **c)** CD

4. a) Answers vary. Make sure slope is greater than 4
   b) Answers vary. Make sure slope is less than –5
   c) Answers vary. Make sure slope is greater than 1
   d) Answers vary. Make sure slope is greater than $-\dfrac{1}{3}$

5. a) Answers vary. Make sure slope is greater than –7
   b) Answers vary. Make sure slope is greater than –1
   c) Answers vary. Make sure slope is less than 1
   d) Answers vary. Make sure slope is less than 1

6. a) not parallel   **b)** not parallel
   c) parallel   **d)** not parallel

7. a) b) c) d) Answers vary

8. a) not parallel   **b)** parallel

9. a) parallel   **b)** not parallel   **c)** parallel

BLM 3.4.1: Determine the Equation of a Line

1. a) $y = x$ **b)** $y = -x - 4$ **c)** $y = -\dfrac{1}{2} + 3$

2. a) $y = -x + 2$ **b)** $y = 0.5x$
   c) $y = 3x - 3$ **d)** $y = -0.75x$

BLM Answers

3. a)

x	y
0	0
1	−5
2	−10
3	−15
4	−20

b)

x	y
0	−12
1	−10
2	−8
3	−6
4	−4

c)

x	y
0	2
1	2
2	2
3	2
4	2

4. a) $y = 75x + 500$ **b)** \$1400 **c)** 100 wk

5. a) $y = 3x + 5$ **b)** $y = -2x + 6$
 c) $y = 4x - 7$ **d)** $y = -x + 3$

6. a) $y = x + 1$ **b)** $y = 2x + 3$
 c) $y = x - 2$ **d)** $y = 4x - 3$

7. a)
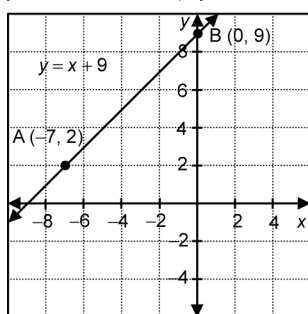
b)
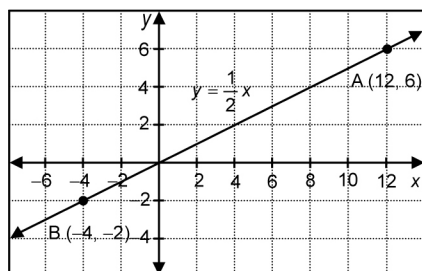
c)
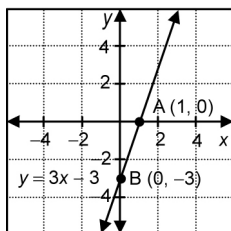
BLM 3.5.1: Graph Linear Relations by Hand

1. a) $m = 9, b = -6$
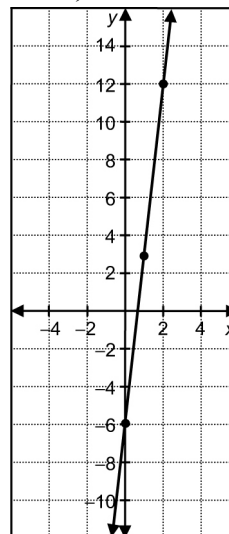
b) $m = 3, b = -4$
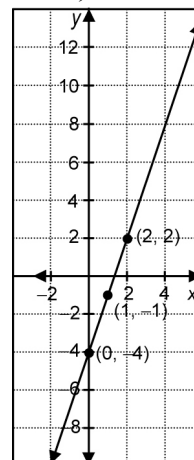
c) $m = -0.25, b = 0$
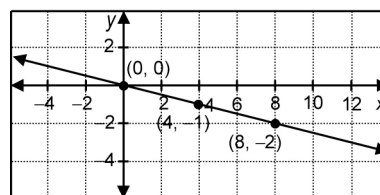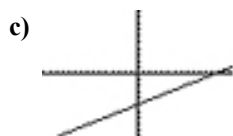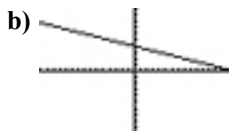

d) $m = -1, b = -5$

2. a)

b)

c)

d)

BLM Answers

3. a)

b)

c)

d)

4. a)

b)

c)

d)

5. a) $y = 5$
  b) $y = -5$
  c) $y = 3$
  d) $y = -4$

6. a)
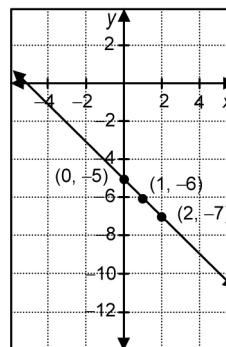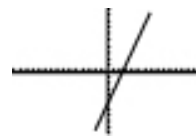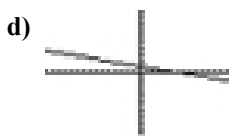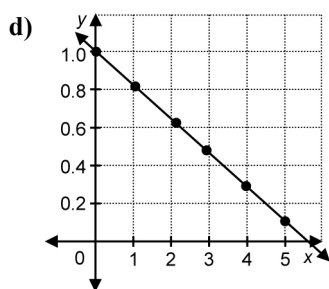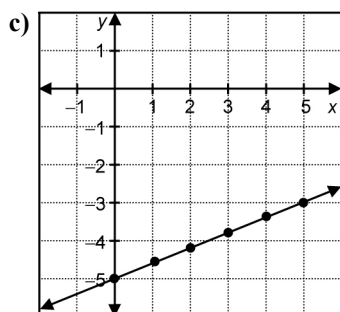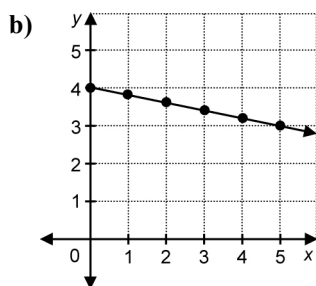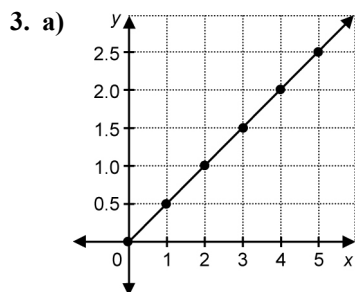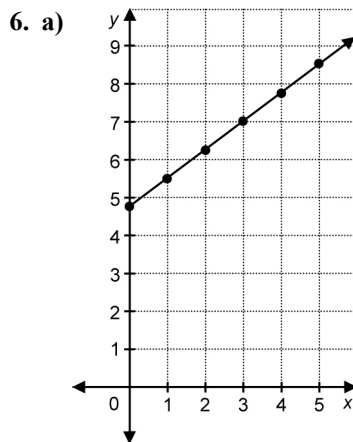
b) $y = 0.75x + 4.75$ **c)** $15.25   **d)** 12 ds

7. a)
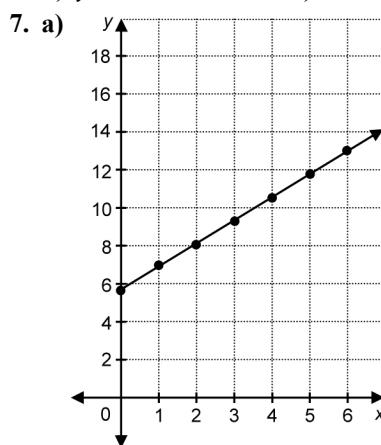
b) $y = 1.25x + 5.50$ **c)** $16.75   **d)** 10 boxes

BLM 3.CR.1: Chapter 3 Review

3.1 Slope as a Rate of Change

1. a)

x	y	Rate of change
0	−40	$-30 - (-40) = 10$
1	−30	$-20 - (-30) = 10$
2	−20	$-30 - (-40) = 10$
3	−10	$-10 - (-20) = 10$
4	0	$0 - (-40) = 10$

  b) 10   **c)** −40   **d)** $y = 10x - 40$

2.

Driveways shovelled	Earnings ($)
0	0.00
1	8.00
2	16.00
3	24.00
4	32.00
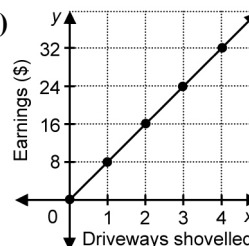
a) 8   **b)**   **c)** 8

BLM Answers

3. a) rise = 4, run = 4, slope = 1

b) rise = 2, run = 6, slope = $\dfrac{1}{3}$

3.2 Investigate the Slope and *y*-Intercept Using Technology

4. *Work is done on a graphing calculator.*

a) $y = 1 - \dfrac{1}{2}x$ **b)** $y = 5x$

c) $y = 0.75x + 5$ **d)** $y = x - 1$

3.3 Properties of Slopes of Lines

5. a) Equations b), c), d) have positive slopes.
   b) Equation a) has a negative slope.
   c) Line a) 1, b) 0, c) 5, d) –1
   d) *Answers vary. The slope of the parallel line should be equal to original line*.
6. a) Lines are not parallel.
   b) Lines are parallel.

3.4 Determine the Equation of a Line

7. a) First line: $y = 3x + 10$, Second line: $y = \dfrac{1}{3}x - \dfrac{10}{3}$

  b) First line: $y = -x$, Second line: $y = -x$

8. a) $y = -3x$ **b)** $y = -0.75x + 0.5$
   c) $y = 4x + 4$ **d)** $y = -x$
9. a) $y = 6x + 5$ **b)** $y = -x - 2$
   c) $y = 5x + 6$ **d)** $y = -0.5x + 5$
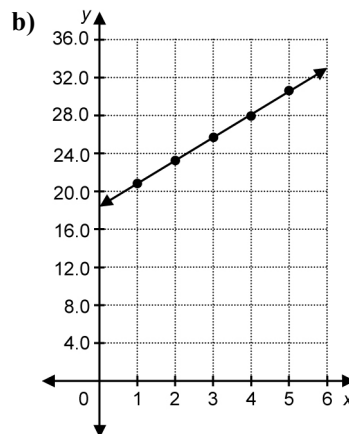
10. a) $y = \dfrac{17}{15}x + \dfrac{3}{5}$ **b)** $y = 2x$

   c) $y = \dfrac{9}{7}x - \dfrac{5}{7}$ **d)** $y = 3$

3.5 Graph Linear Relations by Hand

11. a) Complete the table to show the time taken to complete each lap for the first 5 laps.

Lap	Time to complete the lap (s)
1	20.5
2	23.0
3	25.5
4	28
5	30.5

b)

c) $y = 2.5x + 18$ **d)** 35.5 s
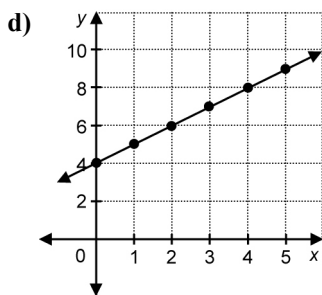
BLM 3.PT.1: Chapter 3 Practice Test

Multiple Choice

1. B   **2. D**   **3. A**   **4. D**   **5. D**

Short Response

6. rise = –3, run = 7, slope = $\dfrac{-3}{7}$

7. a)

b)


c)

BLM Answers

d)
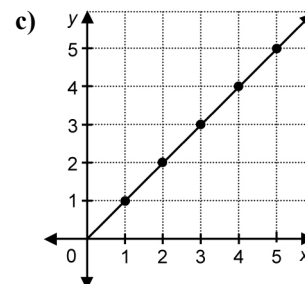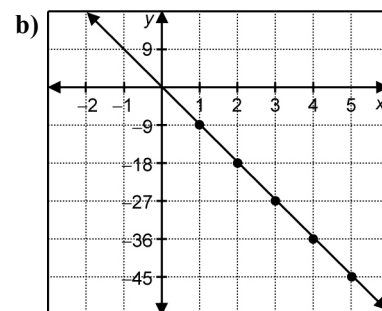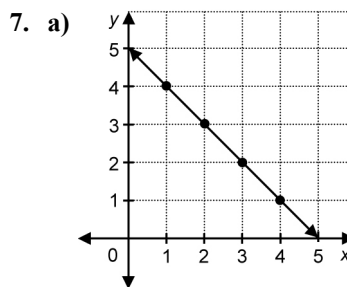
8. a) $y = x$ and $y = x + 4$
  b) $y = 5 - x$ and $y = -9x$
  c) a) 5, b) 0, c) 0, d) 4
  d) *Answers vary; the equation of a parallel line will have the same slope but a different value for the y-intercept*

9. a) The lines are not parallel.
  b) $y = -5x$ and $y = -x$

10. a) $y = 1$, when $x = -4$
    $y = -2$, when $x = 8$
  b) $y = 8$, when $x = -1$
    $y = 5$, when $x = 0$

11. a) $y = 2x - 4$ **b)** $y = -x + 2$
12. a) $y = -2x - 1$ **b)** $y = 0.25x + 2$
13. a) -10 **b)** 70
  c) $y = -10x + 70$ **d)** 7 mth

Extended Response

14. a)

Pairs of Shoes Sold	Earnings ($)
0	0.00
1	8.00
2	16.00
3	24.00
4	32.00

  b) 8   **c)**
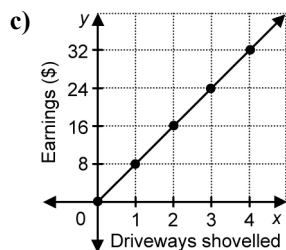
  d) $y = 8x$ **e)** 12

BLM 3.CT.1: Chapter 3 Test

Multiple Choice

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

Short Response

8. rise = 2, run = 6, slope = 1/3
9. a) $y = -5x$ **b)** $y = -2x + 2$
  c) $y = 3x - 3$ **d)** $y = 3x - 1$
10. a) $y = -6$, when $x = -12$
    $y = -2$, when $x = 0$
  b) $y = 0$, when $x = -4$
    $y = -8$, when $x = 4$

11. a) $y = 2x$ **b)** $y = \dfrac{9}{7}x - 1$

12. a) $y = 6x + 4$ **b)** $y = 5x$

Extended Response

13. a)

  b) $y = 18x$ **c)** $216   **d)** 20
14. a)

  b) $y = 0.5x + 1$ **c)** 5 min