MathLinks 8 Practice and Homework Book
Chapter 8 Answers

8 Get Ready

1. Explanations will vary. Examples:
   a) +3%. An increase is a positive integer.
   b) −20 m; If sea level 1 is 0, below sea level should be a negative integer.
2. a) +$15   b) −$15
3. a) +3   b) −5   c) +3
4. a) −8   b) +4
5. a) +9   b) −14   c) −3   d) +6
6. a) +3   b) −4   c) −8   d) +3
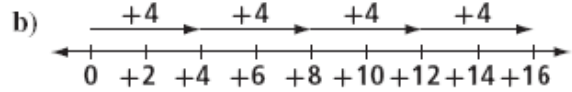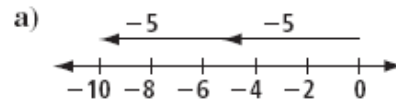7. a) 37   b) 19   c) 13   d) 15

8.1 Exploring Integer Multiplication

1. a) positive, insert   b) negative, zero
2. a) $(+5) \times (+4)$ b) $(-7) \times (+3)$
   c) $(-3) \times (+5)$ d) $(+2) \times (+3)$
3. a) $(+1) + (+1) + (+1) + (+1)$
   b) $(-6) + (-6) + (-6)$
   c) $(-2) + (-2) + (-2) + (-2) + (-2)$
   d) $(+9) + (+9)$
4. a) $(+3) \times (+3)$ b) $(-5) \times (+2)$
   c) $(-2) \times (-2)$ d) $(-2) \times (+4)$
5. a) +16   b) −12   c) −8   d) +15
6. a) $(+6) \times (+8) = 48$, Serena will earn $4 dollars over 8 weeks.
   b) $(+12) \times (-3) = -36$, The temperature dropped 36 degrees in 12 hours.

8.2 Multiplying Integers

1. number line, negative
2. a) sign   b) positive, 28, 28
   c) negative, −28, −28
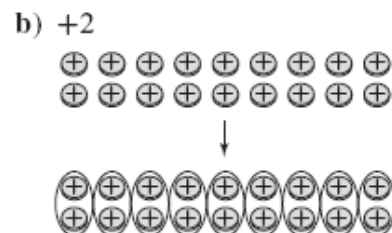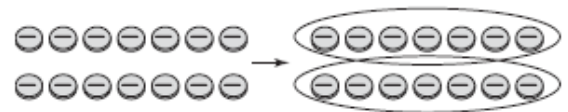3. same, −24
4. a) $(+2) \times (-3)$ b) $(+3) \times (+4)$

5. Number lines may vary. Example:
   a)

   b)

6. a) +42   b) −32   c) −45   d) +110
7. Estimates may vary.
   a) +162   b) −480   c) −708   d) +1764
8. a) −40   b) +5   c) −2   d) +9   e) +7
9. a) $60   b) −$30

8.3 Exploring Integer Division

1. c) $(-10) \div (+2) = -5$
2. a) $(-8) \div (-4) = +2$
3. b) $(+6) \div (+2) = +3$
4. a) +2   b) +5   c) −2   d) +3
5. a) −5, +2   b) +8, −2   c) +2, +3
6. −3, + 4
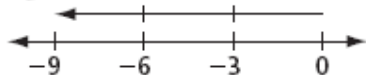7. a) +2

   b) +2

8. a) Each quotient is 1 less than the one before.
   b) −2
9. a) $(+18) \div (+3) = +6$
   b) $(-20) \div (+4) = -5$
10. $(+21) \div (+100)$; 0.21 h or 12.6 min
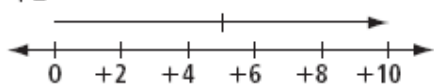11. $(+750) \div (+10)$; $75

8.4 Dividing Integers

1. some, number line
2. numerals, sign a) positive b) negative
3. a) $(+6) \div (+2) = +3, (+6) \div (+3) = +2$
   b) $(-8) \div (-2) = +4, (-8) \div (-4) = +2$
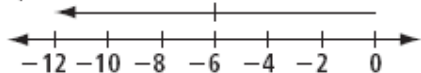4. Number lines may vary. Examples:
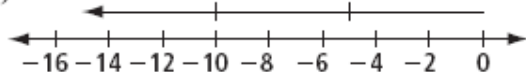   a) −3

   b) +2

   c) +2

   d) −3

5. a) −11 b) −3
6. a) +16 b) −1 c) −20
7. $(+286) \div (-13) = -22$
8. $(\$15) \div (+5) = +3$ She spent $3 each day.
9. a) $15 b) 3

10. $(-1972) \div (-35)$, because this quotient is positive and the others are negative
11. 200 m/min
12. 4819 sec or about 80 min

8.5 Applying Integer Operations

1. operation
2. order, operations
3. 1 Brackets; 2 Multiply and divide, from left to right; 3 Add and subtract, from left to right
4. a) −9 b) −3 c) −12 d) −7
5. a) −4 b) −31

6. a) 20
   b) $(+12) + (-4) + (+6) + (-10) + (+15) + (+1) = 20$
7. a) 56 b) 420 c) 243 min
8. a) highest: hours 11 and 14; lowest: hours 8 and 13
   b) Answers may vary. Example:
   $$\frac{+2 +1 +1 -3 -1 +4 -1 -2}{8}$$
9. Integer statements may vary.
   a) $(+9) \times (+3) + (-1) + (+1) + (-2) + (-2) + (+3) + (-1) + (+1) = 26$
   b) 36

8 Link It Together

1. $(+100) \times (+290) + (-9) \times (+1000) = +20\,000$, The charity had $20 000 left.
2. $[(+1000) + (-100)] \div [(+7) + (+1)] = +112.50$, Each person received $112.50
3. $[(+7) + (+1)] \times (+100) + (-1000) \times (+2) = -1200$
   The people at the table won more than they paid for the tickets. The charity lost $1200 on this table.

8 Vocabulary Link

1. sign rules
2. brackets
3. zero pair
4. order
5. left to right
6. integer