6.5 Dividing Fractions and Mixed Numbers

1. b)
2. c)
3. a)
4. d)
5. a) $2\frac{1}{2}$ b) 2 c) $\frac{2}{3}$ d) $2\frac{5}{8}$
6. a) $\frac{4}{5}$ b) $2\frac{1}{2}$ c) $1\frac{3}{8}$ d) $\frac{15}{23}$
7. a) $\frac{15}{16}$ b) $1\frac{1}{2}$ c) $3\frac{1}{7}$ d) $2\frac{2}{3}$
8. a) $2, 1\frac{1}{2}$ b) $1\frac{1}{2}, 1\frac{6}{13}$
   c) $2, 1\frac{9}{17}$
9. a) $1\frac{3}{4}, 1\frac{20}{21}$ b) $2\frac{2}{3}, 3\frac{1}{33}$
   c) $1\frac{3}{4}, 1\frac{25}{32}$
10. 18
11. 5
12. $3\frac{3}{5}$ km/h
13. $3\frac{3}{4}$

6.6 Applying Fraction Operations

1. a) operation b) order
2. 3, 1, 2
3. a) $\frac{1}{3} \times \frac{3}{4}, \frac{7}{12}$ b) $\left(1\frac{1}{2} + \frac{5}{6}\right), 2\frac{1}{3}$
   c) $\frac{7}{8} + \frac{2}{3}, \frac{7}{24}$ d) $1\frac{1}{2} \times \frac{1}{3}, \frac{3}{4}$
4. a) $6\frac{1}{2}$ b) $\frac{17}{18}$ c) $2\frac{5}{8}$ d) $1\frac{5}{32}$
5. \$528
6. $\left(1\frac{1}{2} \times \frac{1}{4}\right) \div 3 = \frac{5}{12}$
7. a) $\left(\frac{1}{2} + \frac{5}{8}\right) \times \frac{4}{3} + \frac{3}{2} = 3$
   b) $1\frac{1}{4} - \frac{1}{8} \div \left(1\frac{1}{2} - \frac{3}{4}\right) = 1\frac{1}{12}$
   c) $\frac{13}{5} - \left(\frac{3}{10} + \frac{7}{10}\right) \div \frac{1}{2} - \frac{3}{5} = 0$
   d) $1\frac{1}{4} \times \left(2\frac{2}{5} \div 2\frac{1}{6}\right) - 1\frac{1}{3} = \frac{2}{39}$
8. Answers may vary. Examples:
   a) $\frac{3}{3} \times 3 - 3$
   b) $3 + \frac{3}{3} - 3$
   c) $\frac{3}{3} + \frac{3}{3}$
   d) $3 + (3 - 3) \times 3$
9. Expressions may vary. Example:
   $2000 \times \left(\frac{1}{2} + \frac{1}{5}\right) = 1400$, 1400 km

6 Link It Together

1. a) 16 L b) $15\frac{11}{12}$ L
2. \$41.25
3. 5 L
4. \$31.25

6 Vocabulary Link

1. denominator
2. reciprocal
3. commutative property
4. numerator
5. proper fraction
6. quotient
7. product
8. order of operations
9. mixed number
10. dividend
11. improper fraction
12. divisor

7 Get Ready

1. The right prisms are a) and c) and the right cylinder is f). These figures have faces that meet the base at 90°.
2. Answers will vary.
   a) between 175 and 200
   b) between 720 and 800
   c) between 140 and 210
3. a) 416 cm^2 b) 123.8 m^2 c) 226.5 cm^2
4. a) $4 \times 4 \times 4 = 64$
   b) $3 \times 3 \times 3 \times 3 \times 3 = 243$
5. No, 3 to the power of 4 is $3 \times 3 \times 3 \times 3$, which is 81, and 4 to the power of 3 is $4 \times 4 \times 4$, which is 64.