

MathLinks 8 Practice and Homework Book

Chapter 6 Answers

6 Get Ready

- a) $\frac{1}{3}$ b) $\frac{5}{6}$ c) $\frac{7}{10}$
- a) $\frac{1}{4}$ b) $\frac{1}{2}$ c) $\frac{2}{15}$
- a) $3\frac{4}{5}$ b) 6 c) $1\frac{1}{5}$ d) $5\frac{3}{7}$
- a) $4\frac{3}{8}$ b) $7\frac{3}{10}$
- a) $2\frac{1}{6}$ b) $2\frac{1}{4}$
- a) 1 b) 4

6.1 Multiplying a Fraction and a Whole Number

- multiplication a) 3, 3 b) 2, 2
c) 3, 12, 3
- fraction, either, $\frac{2}{3}$
- a) $4 \times \frac{1}{6} = \frac{2}{3}$ b) $3 \times \frac{1}{2} = 1\frac{1}{2}$
c) $4 \times \frac{1}{3} = 1\frac{1}{3}$
- a) $4 \times \frac{2}{3} = \frac{8}{3}$ or $2\frac{2}{3}$ b) $2 \times \frac{8}{5} = \frac{16}{5}$ or $3\frac{1}{5}$
c) $6 \times \frac{1}{7} = \frac{6}{7}$
- a) $1\frac{1}{5}$ b) $2\frac{1}{2}$
- a) 2 b) $\frac{8}{9}$
- a) $\frac{3}{4}$ b) $\frac{5}{8}$ c) 2 d) 5 e) $1\frac{1}{2}$
- 6 h
- $2\frac{3}{4}$
- Methods will vary. 225 m

6.2 Dividing a Fraction by a Whole Number

- b)
- c)
- a)
- a) $\frac{1}{6}$ b) $\frac{5}{12}$
- a) $\frac{1}{12}$ b) $\frac{5}{18}$
- a) $\frac{2}{9}$ b) $\frac{3}{10}$
- a) $\frac{2}{3} \div 4$ b) Diagrams will vary. $\frac{1}{6}$
- a) $\frac{3}{5} \text{ m} \div 2$ b) Diagrams will vary. $\frac{3}{10} \text{ m}$
- a) Expressions may vary. Example:
 $\frac{9}{12} \div 4 = \frac{9}{48}$ or $\frac{3}{16}$
b) Diagrams will vary.

6.3 Multiplying Proper Fractions

- paper folding
- numerators, multiply
- estimate
- a) $1, \frac{5}{9}$ b) $0, \frac{4}{45}$ c) $\frac{1}{4}, \frac{3}{20}$
d) $\frac{1}{2}, \frac{6}{15}$ or $\frac{2}{5}$ e) $\frac{1}{2}, \frac{21}{40}$ f) $1, \frac{4}{5}$
- $\frac{1}{4} \text{ km}$
- $\frac{1}{8}$
- $\frac{1}{2}, \frac{1}{2}$
- Québec's population is approximately $\frac{2}{15}$ the population of Toronto.
- Models will vary. $\frac{1}{25}$
- $\frac{1}{12}$

6.4 Multiplying Improper Fractions and Mixed Numbers

- True
 - False You can estimate the product of two mixed numbers or improper fractions by multiplying the whole numbers closest to them.
 - False Two mixed numbers can be multiplied by expressing them as improper fractions and then multiplying the numerators and multiplying the denominators.
- $1\frac{4}{5}$
 - $2\frac{1}{6}$
- $\frac{5}{2}$
 - $\frac{14}{3}$
- Models will vary.
 - $\frac{1}{2}$
 - 3
- $1, \frac{4}{5}$
 - $8, 9\frac{1}{3}$
 - $6, 5\frac{5}{6}$
- $10\frac{1}{2}$ h
 - \$94.50
- $16\frac{4}{5}$
- $11\frac{1}{3}$ km
- $2\frac{4}{5}$ h
- 3 tanks
- 18 years old
- $9\frac{3}{4}$ h

6.5 Dividing Fractions and Mixed Numbers

- b)
- c)
- a)
- d)
- $2\frac{1}{2}$
 - 2
 - $\frac{2}{3}$
 - $2\frac{5}{8}$
- $\frac{4}{5}$
 - $2\frac{1}{2}$
 - $1\frac{3}{8}$
 - $\frac{15}{23}$
- $\frac{15}{16}$
 - $1\frac{1}{2}$
 - $3\frac{1}{7}$
 - $2\frac{2}{3}$

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

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

$$2000 \times (\frac{1}{2} + \frac{1}{5}) = 1400, 1400 \text{ km}$$

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