

Skills

● Lesson 1-1 Find the opposite of each number.

1. 7 2. -18 3. -4 4. -100 5. 24

Compare using $<$, $=$, or $>$.

6. $2 \blacksquare 7$ 7. $-13 \blacksquare 13$ 8. $-5 \blacksquare -6$ 9. $21 \blacksquare -12$

● Lesson 1-2 Find each sum or difference.

10. $33 + (-17)$ 11. $-12 + (-6)$ 12. $82 + 10$ 13. $-75 + 14$
 14. $-7 - (-4)$ 15. $19 - (-9)$ 16. $-40 - 22$ 17. $-4 - (-100)$

● Lesson 1-3 Find each product or quotient.

18. $-8 \times (-9)$ 19. $30(-4)$ 20. $-13 \cdot 4$ 21. $(15)(-8)$
 22. $48 \div (-4)$ 23. $\frac{-37}{-1}$ 24. $-\frac{68}{2}$ 25. $\frac{98}{14}$

● Lessons 1-4, 1-5 Write each fraction as a decimal.

26. $\frac{2}{3}$ 27. $\frac{3}{25}$ 28. $\frac{7}{4}$ 29. $\frac{7}{12}$ 30. $\frac{6}{15}$

Order from greatest to least.

31. $-1, 0.15, \frac{1}{5}$ 32. $\frac{3}{11}, -\frac{1}{4}, -0.1$ 33. $-0.3, \frac{3}{8}, \frac{7}{20}$

● Lesson 1-6 Simplify.

34. $-\frac{7}{8} + \left(-\frac{5}{8}\right)$ 35. $13.7 - 15$ 36. $1\frac{1}{6} - \left(-\frac{2}{3}\right)$ 37. $-4.59 + 5.49$

● Lessons 1-7, 1-8 Simplify.

38. $\left(-\frac{7}{10}\right)\left(-\frac{5}{8}\right)$ 39. $25.5 \div (-0.5)$ 40. $-0.17 \cdot 1.8$ 41. $\frac{5}{6} \div \left(-\frac{4}{9}\right)$

Skills

- **Lesson 2-1** Evaluate each expression for $a = -2$, $b = 8$, and $c = 5$.

1. $c - b$

2. $2b + a$

3. $\frac{1}{2} + 2c$

4. $\frac{b}{a}$

Write an algebraic expression for each word phrase.

5. 50 meters longer than x meters

6. driving r miles per hour for 2.5 hours

7. 42 students divided equally into t teams

8. 3 years younger than Matt's age, a

- **Lesson 2-2** Simplify each expression.

9. $2r + 7 + r$

10. $14 - 2x - 5$

11. $4(1.5 - 3p)$

12. $\frac{1}{4}n + 1 + \frac{1}{2}n - 5$

- **Lesson 2-3** Use inverse operations to solve each equation.

Check your answer.

13. $t - 13 = -29$

14. $17 + d = -7$

15. $d + 112 = 159$

16. $y - 68 = 94$

17. $\frac{m}{5} = -15$

18. $-7y = -42$

19. $0.4t = 16$

20. $\frac{x}{12} = -8$

- **Lesson 2-4** Solve each equation using number sense.

21. $7t + 5 = 40$

22. $2d - 12 = 18$

23. $5w - 18 = 7$

24. $\frac{z}{4} + 5 = 15$

- **Lesson 2-5** Solve each equation using inverse operations.

Check your answer.

25. $\frac{r}{-6} + 4 = 3$

26. $12m + 24 = 0$

27. $-6g - 9 = 15$

28. $\frac{k}{-3} - 2 = -20$

- **Lesson 2-6** Use the distributive property to solve each equation.

29. $3(n + 2) = -6$

30. $-2(4 - x) = 10.4$

31. $\frac{1}{2}(2s + 8) = 14$

Skills

● Lesson 3-1

Which numbers of the given numbers are solutions of the inequality?

1. $x > -5$; $-10, 10, -1, -5$

2. $n \leq 7.3$; $7, -7.3, -1\frac{1}{2}, 7\frac{3}{4}$

3. $g \leq -1$; $-4, 1, -\frac{1}{2}, -1$

4. $r < \frac{1}{4}$; $0.25, 0, -\frac{3}{4}, 1$

Write an inequality for each statement.

5. The space shuttle can carry more than 38,000 pounds.

6. Today your break will be shorter than 15 minutes.

7. A song is less than 5 minutes long.

8. A shelf can hold at most 250 pounds.

● Lesson 3-2 Solve each inequality. Then graph the inequality.

9. $y + 5 \geq 11$

10. $p + 7 < -3$

11. $a - 9 \leq 1$

12. $d - 3 > 13$

● Lesson 3-3 Solve each inequality. Then graph the inequality.

13. $3y \geq 33$

14. $\frac{p}{7} < -2$

15. $\frac{a}{-8} \leq -7$

16. $4d > -36$

● Lesson 3-4 Solve each inequality. Then graph the inequality.

17. $3p - 5 > 1$

18. $1.5 + 7y < 5$

19. $-\frac{1}{5} \geq x - \frac{4}{5}$

20. $r + 12 \geq -3$

21. $-1.9 < \frac{b}{4} + 0.1$

22. $\frac{5}{8}x < -5$

Skills

- **Lesson 4-1** Write each fraction in simplest form.

1. $\frac{20 \text{ in.}}{6 \text{ ft}}$ 2. 15 min : 3 h 3. 2 kg to 500 g

- **Lesson 4-2** Find each unit rate.

4. 100 Calories in 5 crackers 5. 84 players on 7 teams
6. $\frac{1}{2}$ mi in $\frac{1}{5}$ h 7. $\frac{3}{8}$ lb in $\frac{2}{3}$ box

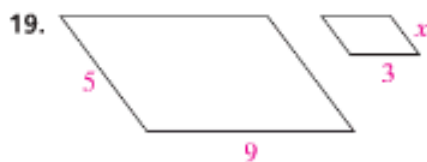
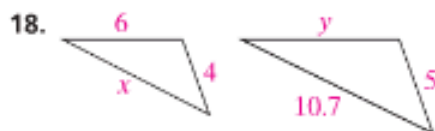
- **Lesson 4-3** By using cross products, tell whether the ratios can form a proportion.

8. $\frac{4}{3}, \frac{12}{9}$ 9. $\frac{8}{5}, \frac{11}{7}$ 10. $\frac{21}{6}, \frac{7}{2}$ 11. $\frac{6}{24}, \frac{2}{4}$ 12. $\frac{50}{6}, \frac{3}{2}$

- **Lesson 4-4** Solve each proportion using cross products.

13. $\frac{12}{a} = \frac{3}{5}$ 14. $\frac{n}{12} = \frac{4}{16}$ 15. $\frac{7}{8} = \frac{n}{4}$ 16. $\frac{7}{10} = \frac{14}{a}$ 17. $\frac{7}{n} = \frac{17.5}{5}$

- **Lesson 4-5** Each pair of figures is similar. Find the value of each variable.



- **Lesson 4-6** The scale on a drawing is 0.5 in. : 15 ft. Find the actual length for each drawing length. Round to the nearest tenth, if necessary.

20. 15 in. 21. 20 in. 22. 10 in. 23. 40 in. 24. 15.5 in. 25. 1.25 in.

- **Lesson 4-7** Find the constant of proportionality for each table of values.

26. songs per hour

Hours (h)	3	5	7
Songs	54	90	126

27. price per pound

Walnuts (lb)	5	9	12
Price	\$31.80	\$57.24	\$76.32

Skills

● Lesson 5-1

Write each ratio as a percent.

1. $\frac{4}{5}$

2. $\frac{11}{5}$

3. $\frac{3}{25}$

4. $\frac{19}{20}$

5. $\frac{1}{10}$

6. $\frac{3}{2}$

Write each percent as a decimal.

7. 37.5%

8. 11.375%

9. 2.55%

10. 9%

11. 1.111%

12. 97.05%

Write each percent as a fraction in simplest form.

13. 225%

14. 0.1%

15. 0.07%

16. 398%

17. 156%

18. 0.2%

● Lesson 5-2 Write a proportion and solve.

19. 54 is what percent of 135?

20. What percent of 48 is 2.4?

21. What percent of 200 is 120?

22. 8 is what percent of 20?

23. 32.5 is what percent of 130?

24. What percent of 150 is 27?

● Lesson 5-3 Write and solve an equation to find the part of a whole.

25. 30% of 250 is what number?

26. What number is 90% of 70?

27. 45% of 200 is what number?

28. What number is 7% of 88?

29. 4% of 200 is what number?

30. What number is 22% of 1?

● Lesson 5-4 Find each payment.

31. \$75 with a 5% sales tax

32. \$219 with a 3.5% sales tax

33. \$85.65 with a 3% sales tax

● Lesson 5-5 Find the interest earned for each account.

34. deposit \$1,100; earns 5% simple interest; interest earned in 5 years

35. deposit \$2,400; earns 4.5% simple interest; interest earned in 6 years

● Lesson 5-6 Find each percent of change. Round to the nearest tenth. State whether the change is an increase or a decrease.

36. 25 to 40

37. 95 to 45

38. 108 to 110

39. 50 to 95

40. 125 to 75

41. 8.5 to 10

42. 100 to 15

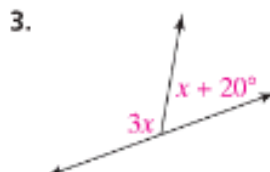
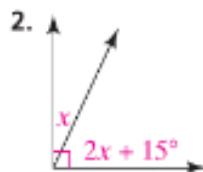
43. 63.5 to 20

44. 111 to 150

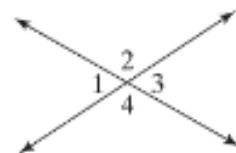
45. 25.9 to 30.2

Skills

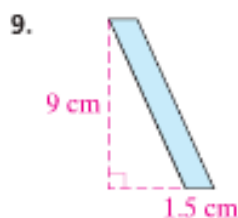
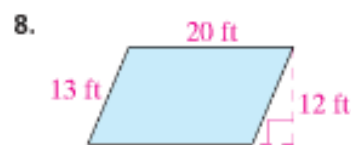
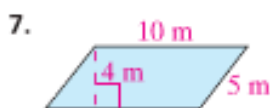
- **Lesson 6-1** Write an equation relating the measures of the two angles and find the angle measures.



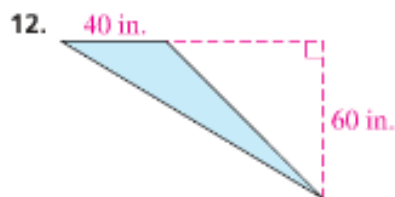
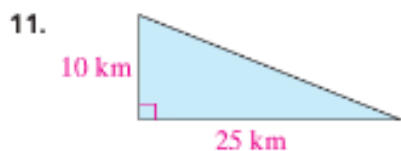
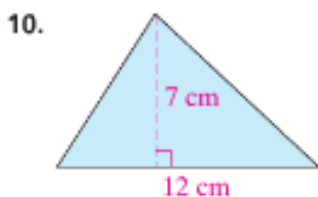
In the diagram at the right, $m\angle 1 = 63^\circ$. Find the measure of each angle.

4. $\angle 2$ 5. $\angle 3$ 6. $\angle 4$ 

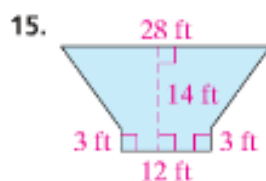
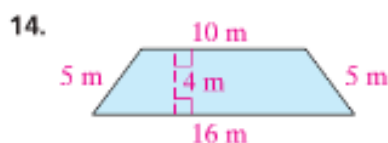
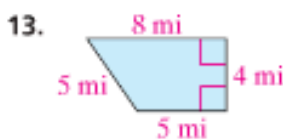
- **Lesson 6-2** Find the area of each parallelogram.



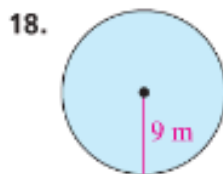
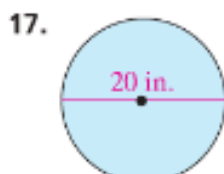
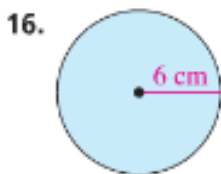
- **Lesson 6-3** Find the area of each triangle.



- **Lesson 6-4** Find the area of each trapezoid or irregular figure.

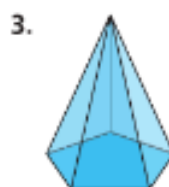
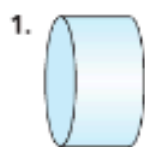


- **Lesson 6-5** Find the circumference and area of each circle. Round to the nearest tenth of a unit.



Skills

● **Lesson 7-1** Name each figure.



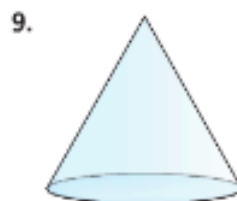
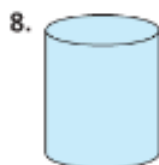
Use graph paper to draw each figure.

4. rectangular prism

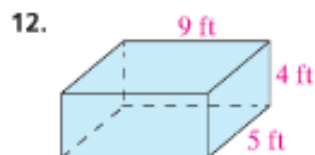
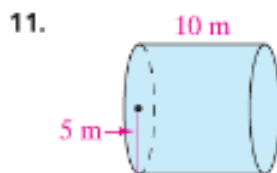
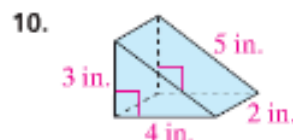
5. cube

6. triangular pyramid

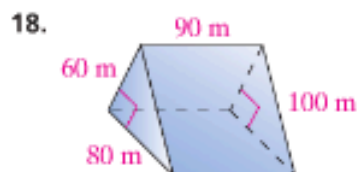
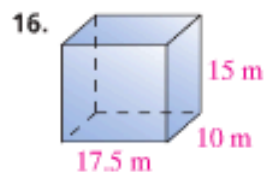
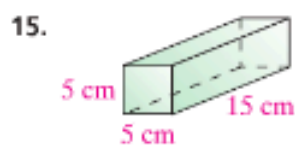
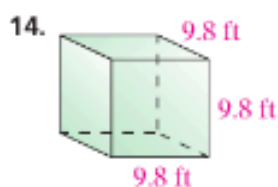
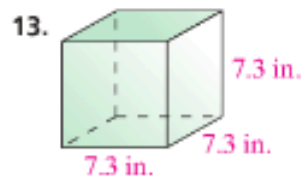
● **Lesson 7-2** Draw a net for each three-dimensional figure.



Find the surface area of each solid. If necessary, round to the nearest tenth.

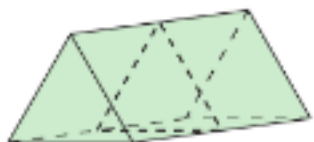


● **Lesson 7-3** Find the volume of each figure. If necessary, round to the nearest tenth.

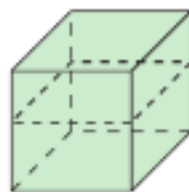


● **Lesson 7-4** Describe each cross-section.

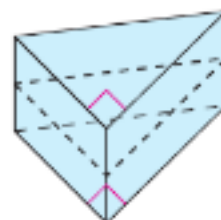
19.



20.



21.



Skills

● Lesson 8-1

- A polling company wants to know which U.S. airline is rated highest by air travelers. Which sample is more likely to be random? Explain.
 - The company surveys 50 randomly selected people on a flight from New York to Los Angeles.
 - The company surveys every 20th person entering 5 different U.S. airports on one day.
- Write a fair survey question and a biased survey question.

● Lesson 8-2 Use a proportion to estimate each animal population.

- total moose counted: 58
marked moose counted: 7
total marked moose: 52
- total coyotes counted: 378
marked coyotes counted: 68
total marked coyotes: 204
- Suppose 25 sea gulls were marked in a nesting area. Later, 500 sea gulls were counted, 19 of which were marked. Estimate the population

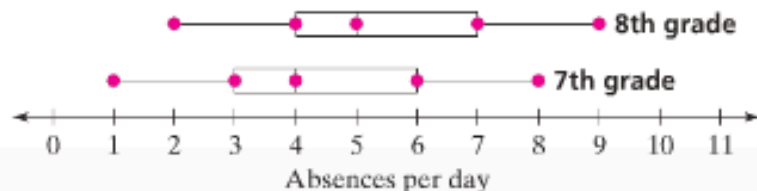
● Lesson 8-3 The table shows the heights of a random sample of 7-year-olds at a school. Use the sample to make an inference about each measure. Support your answer.

- the mean height of 7-year-olds at the school
- the median height of 7-year-olds at the school
- the percent of 7-year-olds at the school who are under 47 in. tall
- the percent of 7-year-olds at the school who are at least 50 in. tall

Heights of 7-year-olds (in.)				
50	47	48	50	45
49	46	49	49	50
47	48	45	45	51
47	49	47	48	44

● Lesson 8-4 Compare each pair of measures for the data sets in the box-and-whisker plot, and use the comparison to make an inference.

- the medians of the data sets
- the IQRs of the data sets
- What number n multiplied by the IQR equals the difference between the medians of the data sets? What does this number tell you about the overlap of the data sets?



Skills

- **Lesson 9-1** You roll a number cube. Find each probability.

1. $P(2)$ 2. $P(3 \text{ or } 5)$ 3. $P(2, 4, \text{ or } 6)$

- **Lesson 9-2**

4. A quality control engineer at a factory inspected 300 glow sticks for quality. The engineer found 15 defective glow sticks. What is the experimental probability that a glow stick is defective?

- Find the experimental probability for each basketball team.**

5. Kingwood, Humble, Texas
Wins: 37, Losses: 4
Find $P(\text{Win})$.
6. Westchester, Los Angeles, Calif.
Wins: 25, Losses: 3
Find $P(\text{Loss})$.

- **Lesson 9-3** Make a table to show the sample space for each situation. Then find the number of outcomes.

7. You toss three coins.
8. You spin a number 1 to 6 and toss a coin.
9. You choose one letter from each of the two sets of letters E, F, G, H and A, B, C.
10. You toss two coins and spin a spinner with three congruent sections colored red, white, and blue. Draw a tree diagram to find the sample space. Then find $P(2 \text{ heads, then blue})$.

- **Lesson 9-4** A bag contains 6 green marbles, 8 blue marbles, and 3 red marbles. Find $P(B)$ after A has happened.

11. A : Draw a green marble. Keep it.
 B : Draw a red marble.
12. A : Draw a blue marble. Replace it.
 B : Draw a red marble.

- **Lesson 9-5** What is an appropriate simulation tool for each situation? Explain.

13. About $\frac{1}{2}$ of the members of a local service group are over the age of 50. You want to estimate the probability that in a group of 8 members, at least 4 are over 50.
14. In a certain travel club, 28% of the residents have passports. You want to estimate the probability that you will have to speak with at least 10 members of the travel club before finding one with a passport.