

Graphs and Statistics

Reading Tables

Mathematical information is often organized in **tables** so that it is easy to understand. Tables can help us see certain trends and predict what to expect in the future.

The following table shows information about the seven continents of the world.

CONTINENT	AREA IN MI ²	POPULATION IN 2002	POPULATION PER MI ²	ESTIMATED POPULATION IN 2025
North America	9,420,000	492,000,000	52	612,000,000
South America	6,870,000	355,000,000	52	435,000,000
Europe	3,825,000	729,000,000	190	714,000,000
Asia	17,085,000	3,785,000,000	222	4,766,000,000
Africa	11,685,000	842,000,000	72	1,273,000,000
Australia and Oceania	2,968,000	32,000,000	11	40,000,000
Antarctica	5,100,000	Uninhabited	Uninhabited	Uninhabited

Use the table to answer the following questions.

- Which continent is the largest in area? _____
- Which continent is the largest in population? _____
- List the continents in order from least people per square mile to most people per square mile. _____

- Which continent is expected to have fewer people in 2025 than in 2002?



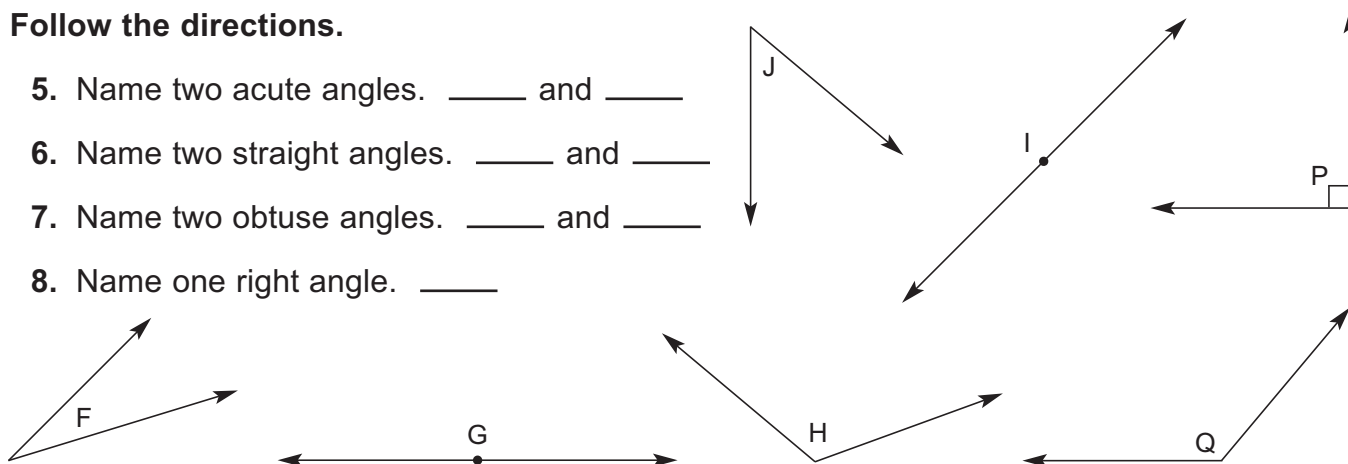
Follow the directions.

5. Name two acute angles. ____ and ____

6. Name two straight angles. ____ and ____

7. Name two obtuse angles. ____ and ____

8. Name one right angle. ____



Solve and check.

9. a. $20 = n - 4$

b. ☒

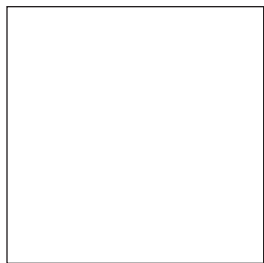
c. $n + 6 = 17$

d. ☒

Round to the nearest ten to estimate. Then copy and solve.

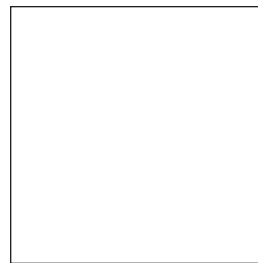
10. a. $69.3 + 431.95 + 25.7$

_____ + _____ + _____ = _____



b. $543.7 - 26.43$

_____ - _____ = _____



Convert to decimals. Write repeating decimals with a bar.

11. a. $\frac{6}{25} =$ _____

b. $\frac{20}{33} =$ _____

Lesson 4

Skill Builders

Write the repeating decimal with a bar.

12. a. $\frac{7}{8} \div \frac{14}{15} =$ _____

b. $1\frac{5}{8} \times 4 =$ _____

c. $22 \overline{)30}$

$2\frac{1}{4}$

$6\frac{2}{3}$

$7\frac{3}{8}$

13. a. $+ 1\frac{5}{6}$

b. $- 2\frac{9}{16}$

c. $\begin{array}{r} 32,728 \\ \times \quad 23 \\ \hline \end{array}$

Complete the sentences.

14. A trapezoid has only 1 pair of _____ sides.

15. Figure _____ is a trapezoid.



Mastery Drill

16. a. 1 fluid ounce = _____ tablespoons

b. 1 cup = _____ fluid ounces

17. a. 1 cubic centimeter = _____ milliliter

b. A straight angle has _____°.

18. An obtuse angle measures between _____° and _____°.

19. An acute angle measures between _____° and _____°.

20. An isosceles triangle has _____ congruent sides.

21. An equilateral triangle has _____ congruent sides.

22. A scalene triangle has _____ congruent sides.

23. The four angles made by two intersecting lines measure a total of _____°.

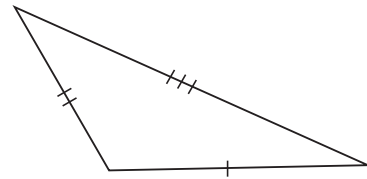
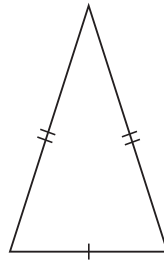
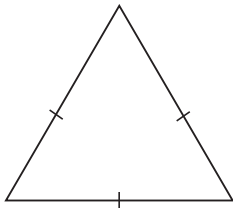
Solve. Cancel where possible.

24. a. $4 \times 1\frac{1}{8} \times \frac{1}{3} = \underline{\hspace{2cm}}$

b. $\frac{2}{3} \times \frac{1}{5} \times \frac{9}{10} = \underline{\hspace{2cm}}$

c. $5 \times 2\frac{3}{4} \times \frac{1}{5} = \underline{\hspace{2cm}}$

Classify each triangle as *equilateral*, *isosceles*, or *scalene*.



25. a. _____

b. _____

C. _____

- 26.** Nellie couldn't see the chalkboard at school so her mother took her to the optometrist. Her eye exam cost \$37.00.



Corrective lenses cost \$65.00, and the frames cost \$34.99. Nellie's mother also decided to buy a case for an extra \$2.00, so that Nellie could protect her glasses when she was not wearing them. What was the total cost of correcting Nellie's vision?

The retina of the human eye has cells called rods and cones, which absorb light rays and change them into electrical signals. Each retina has about 120 million rods and about 6 million cones.

Use the table to answer the questions.

27. What was the most frequent cause of fatal accidents due to improper driving? _____

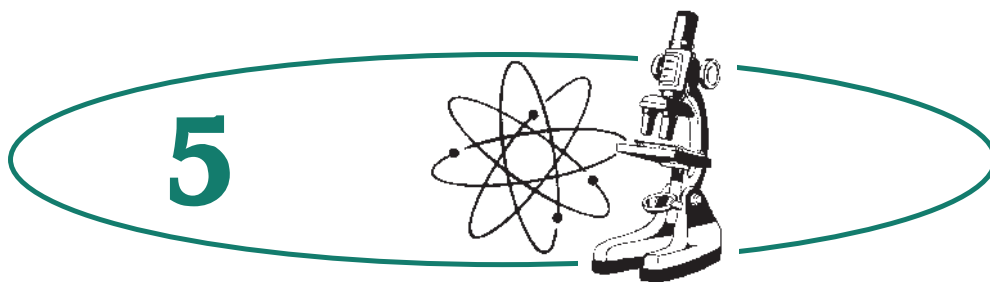
- 28.** Add the percents together. Did you
 get 100%? _____



- △ 29. What do you think might be other causes of fatal accidents that aren't listed here? _____

Fatal Accidents Due to Improper Driving

Type of Improper Driving	Percent of Fatal Road Accidents
Unsafe speed	23%
Failure to yield right of way	9%
Disregard signal	5%
Failed to stop at stop sign	4%
Drove to the left of the center line	6%
Made an improper turn	1%
Followed another vehicle too closely	0.5%



Quiz 1



Tell your teacher when you are ready to take Quiz 1.



Perfect Numbers

Six is often called a perfect number because its factors smaller than itself (1, 2, and 3) when added together also make 6 ($1 + 2 + 3 = 6$).

Find out if the following numbers are perfect by doing the work below.

1. List all the factors of 28 smaller than itself. _____

2. Find the sum of the factors of 28. _____

3. Is 28 a perfect number? _____



4. The factors of 124 smaller than itself are 1, 2, 4, 31, and 62.

Find the sum of the factors of 124. _____

5. Is 124 a perfect number? _____



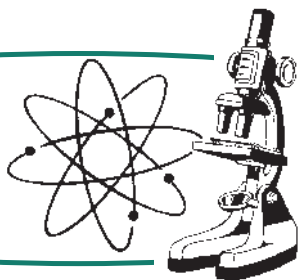
6. The factors of 496 smaller than itself are 1, 2, 4, 8, 16, 31, 62, 124, and 248.

Find the sum of the factors of 496.

7. Is 496 a perfect number? _____

Ancient Greek mathematicians found the first four perfect numbers. They are 6, 28, 496, and 8,128.

6



Converting Decimals to Fractions and Mixed Numbers

Decimals can be changed to fractions or mixed numbers. Many of these fractions can be reduced to simpler form.

$$0.84 = \frac{84}{100} = \frac{21}{25}$$

$$11.9 = 11\frac{9}{10}$$

$$5.56 = 5\frac{56}{100} = 5\frac{14}{25}$$

$$0.2 = \frac{2}{10} = \frac{1}{5}$$

$$0.834 = \frac{834}{1,000} = \frac{417}{500}$$

$$4.295 = 4\frac{295}{1,000} = 4\frac{59}{200}$$

Rewrite each decimal as a fraction or mixed number with a denominator of 10, 100, or 1,000. Reduce to simplest form if necessary. The first one is done for you.

1. a. $0.25 = \frac{25}{100} = \frac{1}{4}$

b. $0.32 = \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

c. $3.62 = \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

2. a. $5.125 = \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

b. $6.48 = \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

c. $9.70 = \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$



We Remember

Round to the nearest . . .

3. hundred. a. 473.8

b. 826

4. thousandth. a. 2.7438

b. 63.82723

Lesson 6

The Speed of Sound in Various Substances

Substance	Feet per second	Meters per second
Air at 59°	1,116	340
Brick	11,980	3,650
Distilled water at 77° F	4,908	1,496
Seawater at 77° F	5,023	1,531
Wood	13,480	4,110

Sound travels through the air at 1,116 ft per second at 59°F. If the air temperature rises to 212°, sound travels at 1,268 ft per second.

Use the table to answer the questions.

5. What is the speed of sound through air at 59°?

Give your answer in meters per second.

6. How much faster per second will sound travel through seawater than through distilled water? Give your answer in feet per second.



7. The speed of sound waves in air at 15°C is 340 meters per second. Sound moves 1,531 meters per second through seawater at 25°C. How much faster does sound travel through seawater than through air?

Set up a proportion to find each answer.

8. a. $12 \text{ ft} = \underline{\hspace{2cm}} \text{ in}$

b. $5 \text{ yd} = \underline{\hspace{2cm}} \text{ ft}$

Substitute 9 for w and 2 for y . Simplify the expressions.

9. a. $18 - y - 27 \div w$

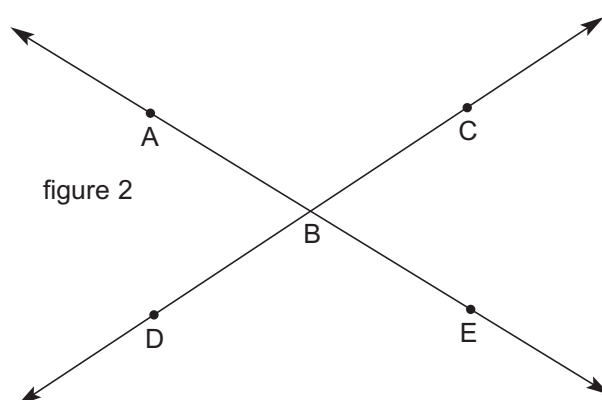
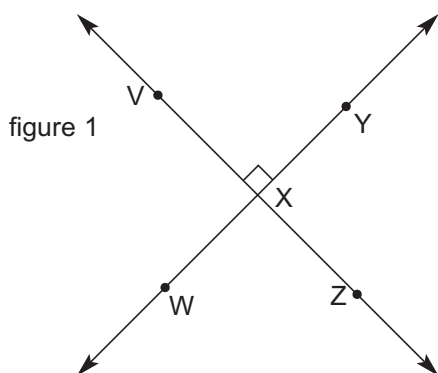
b. $w \times 2 - y$

c. $w \times 6 + y$

d. $14 + w - y$

Answer the questions about figures 1 and 2.

10. The sum of all the angles in each figure is _____.
11. Underline the correct word: $\overleftrightarrow{AE}$ and $\overleftrightarrow{DC}$ are **parallel**, intersecting, perpendicular.
12. $\angle ABD$ is congruent to _____.
13. Measure $\angle ABC$. _____
14. Name the angle that is congruent to $\angle ABC$. _____
15. Name two straight angles from figure 1. _____
16. Name two acute angles from figure 2. _____
17. Name two obtuse angles from figure 2. _____



$\div$ $\times$ Skill Builders

18. a.
$$\begin{array}{r} 3,465 \\ \times 2.7 \\ \hline \end{array}$$

b.
$$\begin{array}{r} 0.58 \\ \times 0.05 \\ \hline \end{array}$$

Write the repeating decimal with a bar.

c. $18 \overline{)5}$

Write these numbers.

19. Negative three hundred twenty-six _____

20. Five million, four hundred thirty-two thousand, nine hundred eighty-one.

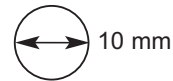
Lesson 6

Mastery Drill

21. A straight angle has _____°.
22. A scalene triangle has _____ congruent sides.
23. An isosceles triangle has _____ congruent sides.
24. An equilateral triangle has _____ congruent sides.
25. An obtuse angle measures between _____° and _____°.
26. An acute angle measures between _____° and _____°.



27. Sound waves strike your eardrum. Your eardrum is a thin, round membrane about 10 mm in diameter. What is the circumference of your eardrum? _____



28. The speed of sound through air is 1,116 feet per second. A jet plane traveling at the speed of sound is described as Mach 1. Twice the speed of sound is Mach 2. How fast is the jet traveling at Mach 2? _____

Use $<$, $>$, or $=$.

29. a. -11 _____ -12 b. 4 _____ -48 c. -32 _____ -23 d. 0.1 _____ 0.10

Use the chart to convert the metric units.

kilo	hecto	deca		deci	centi	milli
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30. a. $4,735 \text{ g} =$ _____ kg b. $0.25 \text{ kg} =$ _____ g c. $3 \text{ g} =$ _____ mg

Rewrite each decimal as a fraction or mixed number with a denominator of 10, 100, or 1,000. Reduce to simplest form.

31. a. $5.8 =$ _____ $=$ _____ b. $0.065 =$ _____ $=$ _____ c. $1.35 =$ _____ $=$ _____