

Name _____

Practice

2-4

Adding and Subtracting

Add or subtract.

1.
$$\begin{array}{r} 29,543 \\ + 13,976 \\ \hline \end{array}$$

2.
$$\begin{array}{r} 93,210 \\ - 21,061 \\ \hline \end{array}$$

3.
$$\begin{array}{r} 369,021 \\ - 325,310 \\ \hline \end{array}$$

4.
$$\begin{array}{r} 893,887 \\ + 22,013 \\ \hline \end{array}$$

5. $971,234 + 55,423 =$ _____

6. **Number Sense** Is 4,000 a reasonable estimate for the difference of $9,215 - 5,022$? Explain.

For questions 7 and 8, use the table at right.

7. How many people were employed as public officials and natural scientists?

8. How many more people were employed as university teachers than as lawyers and judges?

People Employed in U.S. by Occupation in 2000

Occupation	Workers
Public officials	753,000
Natural scientists	566,000
University teachers	961,000
Lawyers and judges	926,000

9. Which is the difference between 403,951 and 135,211?

A 200,000

B 221,365

C 268,740

D 539,162

10. **Explain It** Issac is adding 59,029 and 55,678. Should his answer be greater than or less than 100,000? Explain how you know.

Name _____

Practice

2-6

Subtracting Decimals

Subtract.

1.
$$\begin{array}{r} 92.1 \\ - 32.6 \\ \hline \end{array}$$

2.
$$\begin{array}{r} 52.7 \\ - 36.9 \\ \hline \end{array}$$

3.
$$\begin{array}{r} 85.76 \\ - 12.986 \\ \hline \end{array}$$

4.
$$\begin{array}{r} 32.7 \\ - 2.328 \\ \hline \end{array}$$

5. $8.7 - 0.3 =$ _____

6. $23.3 - 1.32 =$ _____

7. **Number Sense** Kelly subtracted 2.3 from 20 and got 17.7. Explain why this answer is reasonable.

At a local swim meet, the second-place swimmer of the 100-m freestyle had a time of 9.33 sec. The first-place swimmer's time was 1.32 sec faster than the second-place swimmer. The third-place time was 13.65 sec.

8. What was the time for the first-place swimmer? _____

9. What was the difference in time between the second- and third-place swimmers? _____

10. Miami's annual precipitation in 2000 was 61.05 in. Albany's was 46.92 in. How much greater was Miami's rainfall than Albany's?

A 107.97 in. **B** 54.31 in. **C** 14.93 in. **D** 14.13 in.

11. **Explain It** Explain how to subtract 7.6 from 20.39.

Dividing by 2-Digit Divisors

Complete.

$$\begin{array}{r} \square R7\square \\ 98 \overline{)565} \\ -4\square \\ \hline 7\square \end{array}$$

$$\begin{array}{r} \square R3\square \\ 60 \overline{)577} \\ -5\square \\ \hline 3\square \end{array}$$

$$\begin{array}{r} \square R\square \\ 28 \overline{)198} \\ -1\square \\ \hline \square \end{array}$$

$$\begin{array}{r} \square R\square \\ 37 \overline{)229} \\ -2\square \\ \hline \square \end{array}$$

$$\begin{array}{r} \square R\square \\ 47 \overline{)381} \\ -3\square \\ \hline \square \end{array}$$

$$\begin{array}{r} \square R\square \\ 52 \overline{)474} \\ -4\square \\ \hline \square \end{array}$$

7. 89 student runners are warming up on the morning of Track and Field Day. The track has six lanes. The coach wants each lane to have as equal a number of runners as possible. How many runners are in each lane?
8. **Critical Thinking** Isaiah changes both his bike tires every 4 months. How many tires will he have changed after 2 years?

9. Robert and his sister Esther are going to make pancakes for their family reunion. They need 28 eggs. The store only sells eggs by the dozen, or 12 per box. They buy 3 dozen. How many more eggs will they have than the 28 they need?

A 12 extra **B** 8 extra **C** 3 extra **D** 0 extra

10. **Explain It** Explain why 0.5 and 0.05 are NOT equivalent.

Order of Operations

Use the order of operations to evaluate each expression.

1. $4 \times 4 + 3 =$ _____ 2. $3 + 6 \times 2 \div 3 =$ _____

3. $24 - (8 \div 2) + 6 =$ _____ 4. $(15 - 11) \times (25 \div 5) =$ _____

5. $26 - 4 \times 5 + 2 =$ _____ 6. $15 \times (7 - 7) + (5 \times 2) =$ _____

7. $(8 \div 4) \times (7 \times 0) =$ _____ 8. $5 \times (6 - 3) + 10 \div (8 - 3) =$ _____

9. **Explain It** Which is a true statement, $5 \times 4 + 1 = 25$ or $3 + 7 \times 2 = 17$? Explain your answer.

Insert parentheses to make each statement true.

10. $25 \div 5 - 4 = 25$ _____

11. $7 \times 4 - 4 \div 2 = 26$ _____

12. $3 + 5 \times 2 - 10 = 6$ _____

13. **Strategy Practice** Insert parentheses in the expression $6 + 10 \times 2$ so that:

a. the expression equals 32. _____

b. the expression equals $(12 + 1) \times 2$. _____

14. Solve $(25 - 7) \times 2 \div 4 + 2$.

A 6 B 11 C 5 D 18

15. Write two order-of-operation problems. Then trade with a classmate and solve the problems.

Name _____

Practice

6-4

Multiplying Two Decimals

Find each product.

1.
$$\begin{array}{r} 3.7 \\ \times 0.3 \\ \hline \end{array}$$

2.
$$\begin{array}{r} 4.4 \\ \times 0.2 \\ \hline \end{array}$$

3.
$$\begin{array}{r} 0.61 \\ \times 6.8 \\ \hline \end{array}$$

4.
$$\begin{array}{r} 1.9 \\ \times 0.005 \\ \hline \end{array}$$

5. $0.79 \times 4.3 =$ _____

6. $0.79 \times 0.005 =$ _____

7. **Number Sense** The product of 4.7 and 6.5 equals 30.55. What is the product of 4.7 and 0.65? 4.7 and 65?

8. What would be the gravity in relation to Earth of a planet with 3.4 times the gravity of Mercury?

9. The gravity of Venus is 0.35 times that of Jupiter. What is the gravity of Venus in relation to Earth's gravity?

**Relative (to Earth)
Surface Gravity**

Planet	Gravity
Mercury	0.39
Neptune	1.22
Jupiter	2.6

10. How many decimal places are in the product of a number with decimal places to the thousandths multiplied by a number with decimal places to the hundredths?

A 2

B 3

C 4

D 5

11. **Explain It** Explain how you know the number of decimal places that should be in the product when you multiply two decimal numbers together.

Dividing a Decimal by a Decimal

Find each quotient.

1. $0.8 \overline{)1.84}$

2. $0.9 \overline{)2.7}$

3. $2.5 \overline{)4.75}$

4. $1.1 \overline{)1.21}$

5. $7.1 \overline{)6.39}$

6. $0.8 \overline{)0.648}$

7. $1.3 \overline{)10.725}$

8. $0.2 \overline{)0.51}$

9. $0.07 \overline{)0.77}$

10. $4.8 \overline{)4.32}$

11. $0.7 \overline{)8.4}$

12. $2.3 \overline{)6.9}$

13. Chan paid \$4.75 for trail mix that costs \$2.50 a pound. How many pounds of trail mix did he buy?

14. Max's family car has a gas tank that holds 12.5 gallons of gas. It cost \$40.62 to completely fill the tank yesterday. What was the price of gas per gallon?

15. **Strategy Practice** Strawberries cost \$5.99 per pound, and bananas cost \$0.59 per pound. How many pounds of bananas could you buy for the cost of one pound of strawberries?

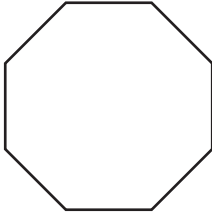
A 101.5 pounds **B** 10.15 pounds **C** 5.99 pounds **D** .59 pounds

16. **Explain It** When dividing a decimal by a decimal, why is it sometimes necessary to add a zero to the right of the decimal point in the quotient?

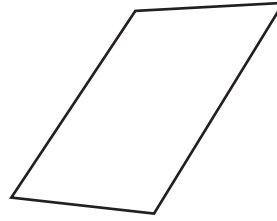
Polygons

Name each polygon. Then tell if it appears to be a regular polygon.

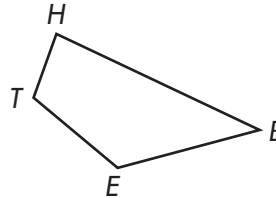
1.



2.



3. Name the polygon. Name the vertices.



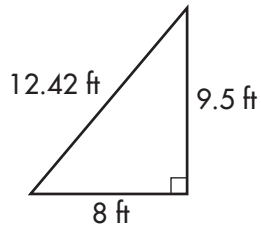
4. Which polygon has eight sides?

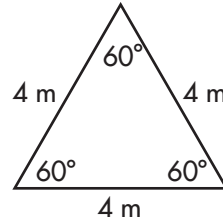
- A** quadrilateral **B** pentagon **C** hexagon **D** octagon

5. **Explain It** Draw two regular polygons and two that are irregular. Use geometric terms to describe one characteristic of each type.

Classifying Triangles

Classify each triangle by its sides and then by its angles.

1.

2.

The measures of two angles of a triangle are given. Find the measure of the third angle.

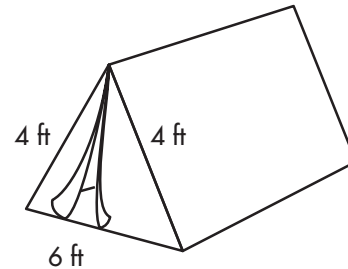
3. $47^\circ, 62^\circ, \underline{\hspace{2cm}}$

4. $29^\circ, 90^\circ, \underline{\hspace{2cm}}$

5. $75^\circ, 75^\circ, \underline{\hspace{2cm}}$

6. $54^\circ, 36^\circ, \underline{\hspace{2cm}}$

- 7.** Judy bought a new tent for a camping trip. Look at the side of the tent with the opening to classify the triangle by its sides and its angles.



- 8. Reasonableness**
- Which describes a scalene triangle?

A 4 equal sides **B** 3 equal sides **C** 2 equal sides **D** 0 equal sides

- 9. Explain It** The lengths of two sides of a triangle are 15 in. each. The third side measures 10 in. What type of triangle is this? Explain your answer using geometric terms.

Name _____

Practice

9-2

Prime and Composite Numbers

Write whether each number is prime or composite.

1. 21 _____ 2. 36 _____ 3. 31 _____

4. 87 _____ 5. 62 _____ 6. 23 _____

7. 29 _____ 8. 45 _____ 9. 51 _____

For **10** and **11**, list all of the factors for each number. Then tell if the number is prime or composite.

10. 100 _____

11. 53 _____

12. **Number Sense** Audrey says that the prime factorization of 42 is 21×2 . Is she correct? If not, tell why.

13. Is 4,564,282 prime or composite? Explain how you determined your answer.

14. Which of the following is a prime number?

- A** 105 **B** 27 **C** 19 **D** 9

15. **Explain It** Does it matter what two factors you select to complete a factor tree? Explain.

Name _____

Practice

9-4

Common Factors and Greatest Common Factors

Find the GCF of each pair of numbers.

1. 15, 50 _____ 2. 6, 27 _____ 3. 10, 25 _____

4. 18, 32 _____ 5. 7, 28 _____ 6. 54, 108 _____

7. 25, 55 _____ 8. 14, 48 _____ 9. 81, 135 _____

10. Number Sense Can the GCF of 16 and 42 be less than 16? Explain.

11. A restaurant received a shipment of 42 gal of orange juice and 18 gal of cranberry juice. The juice needs to be poured into equal-sized containers. What is the largest amount of juice that each container can hold of each kind of juice? _____

12. At a day camp, there are 56 girls and 42 boys. The campers need to be split into equal groups. Each has either all girls or all boys. What is the greatest number of campers each group can have? _____

13. Which is the GCF of 24 and 64?

- A** 4 **B** 8 **C** 14 **D** 12

14. Explain It Do all even numbers have 2 as a factor? Explain.

Name _____

Practice

10-2

Fractions and Division

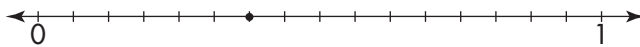
Give each answer as a fraction. Then graph the answer on a number line.

1. $3 \div 7$

2. $4 \div 9$

3. $1 \div 5$

4. Use the number line to name the fraction.



At a golf course, there are 18 holes. Of the 18 holes, 3 are par threes, 8 are par fours, and 7 are par fives. What fraction of the holes are

5. par fives? _____ 6. par threes? _____ 7. par fours? _____

8. **Number Sense** Explain how you know that $7 \div 9$ is less than 1.

9. After school, Chase spends 20 min reading, 30 min practicing the piano, 15 min cleaning his room, and 40 min doing his homework. Chase is busy for 105 min. What fraction of the time does he spend cleaning his room? _____

10. Venietta read 4 books in 7 weeks. How many books did she read each week?

A $\frac{6}{7}$

B $\frac{4}{7}$

C $\frac{3}{7}$

D $\frac{2}{7}$

11. **Explain It** In 5 min, Peter completed 2 math problems. Yvonne says he did $\frac{3}{5}$ of a problem each minute. Is she correct? Explain.

Name _____

Practice

10-4

Equivalent Fractions

Name two equivalent fractions for each fraction.

1. $\frac{5}{15}$ _____

2. $\frac{6}{36}$ _____

3. $\frac{2}{12}$ _____

4. $\frac{4}{28}$ _____

5. $\frac{3}{21}$ _____

6. $\frac{2}{11}$ _____

Find the missing number to make the fractions equivalent.

7. $\frac{4}{13} = \frac{8}{x}$ _____

8. $\frac{12}{30} = \frac{n}{90}$ _____

9. $\frac{q}{54} = \frac{2}{9}$ _____

10. $\frac{14}{h} = \frac{7}{20}$ _____

11. Renie gave each of six people $\frac{1}{10}$ of a veggie pizza. Renie has $\frac{2}{5}$ of the pizza left. Explain how this is true.

12. Which fraction is equivalent to $\frac{3}{7}$?

A $\frac{3}{6}$

B $\frac{6}{14}$

C $\frac{3}{17}$

D $\frac{7}{7}$

13. **Explain It** Jacqueline had four \$5 bills. She bought a shirt for \$10. Explain what fraction of her money Jacqueline has left. Use equivalent fractions.

Fractions in Simplest Form

Write each fraction in simplest form.

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

2. $\frac{6}{24}$ _____

3. $\frac{9}{27}$ _____

4. $\frac{3}{15}$ _____

5. $\frac{10}{12}$ _____

6. $\frac{9}{15}$ _____

7. $\frac{2}{18}$ _____

8. $\frac{25}{60}$ _____

9. $\frac{12}{72}$ _____

10. **Number Sense** Explain how you can tell $\frac{4}{5}$ is in simplest form.

Write in simplest form.

11. What fraction of the problems on the math test will be word problems?

Math Test

- ➔ 20 Multiple-choice problems
- ➔ 10 Fill in the blanks
- ➔ 5 Word problems

12. What fraction of the problems on the math test will be multiple-choice problems?

13. Which is the simplest form of $\frac{10}{82}$?

A $\frac{1}{8}$

B $\frac{1}{22}$

C $\frac{10}{82}$

D $\frac{5}{41}$

14. **Explain It** Explain how you can find the simplest form of $\frac{100}{1,000}$.

Adding Mixed Numbers

Estimate the sum first. Then add. Simplify if necessary.

1. $7\frac{2}{3} + 8\frac{5}{6}$ _____

2. $4\frac{3}{4} + 2\frac{2}{5}$ _____

3. $11\frac{9}{10} + 3\frac{1}{20}$ _____

4. $7\frac{6}{7} + 5\frac{2}{7}$ _____

5. $5\frac{8}{9} + 3\frac{1}{2}$ _____

6. $21\frac{11}{12} + 17\frac{2}{3}$ _____

7. **Number Sense** Write two mixed numbers with a sum of 3.

8. What is the total measure of an average man's brain and heart in kilograms?

Vital Organ Measures

Average woman's brain	$1\frac{3}{10}$ kg	$2\frac{4}{5}$ lb
Average man's brain	$1\frac{2}{5}$ kg	3 lb
Average human heart	$\frac{3}{10}$ kg	$\frac{7}{10}$ lb

9. What is the total weight of an average woman's brain and heart in pounds?

10. What is the sum of the measures of an average man's brain and an average woman's brain in kilograms?

11. Which is a good comparison of the estimated sum and the actual sum of $7\frac{7}{8} + 2\frac{11}{12}$?

A Estimated < actual

B Actual > estimated

C Actual = estimated

D Estimated > actual

12. **Explain It** Can the sum of two mixed numbers be equal to 2? Explain why or why not.

Subtracting Mixed Numbers

Estimate the difference first. Then subtract. Simplify if necessary.

1. $10\frac{3}{4}$
 $- 7\frac{1}{4}$

2. $7\frac{3}{7}$
 $- 2\frac{8}{21}$

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

4. $17\frac{7}{8}$
 $- 12\frac{3}{12}$

5. $9\frac{5}{9} - 6\frac{5}{6}$ _____

6. $4\frac{3}{4} - 2\frac{2}{3}$ _____

7. $6\frac{1}{4} - 3\frac{1}{3}$ _____

8. $5\frac{1}{5} - 3\frac{7}{8}$ _____

9. $8\frac{2}{7} - 7\frac{1}{3}$ _____

10. $2\frac{9}{10} - 2\frac{1}{3}$ _____

Egg Sizes

Strategy Practice The table shows the length and width of several kinds of bird eggs.

Bird	Length	Width
Canada goose	$3\frac{2}{5}$ in.	$2\frac{3}{10}$ in.
Robin	$\frac{3}{4}$ in.	$\frac{3}{5}$ in.
Turtledove	$1\frac{1}{5}$ in.	$\frac{9}{10}$ in.
Raven	$1\frac{9}{10}$ in.	$1\frac{3}{10}$ in.

11. How much longer is the Canada goose egg than the raven egg?

12. How much wider is the turtledove egg than the robin egg?

13. Which is the difference of $21\frac{15}{16} - 18\frac{3}{4}$?

A $2\frac{7}{16}$

B $2\frac{9}{16}$

C $3\frac{3}{16}$

D $3\frac{9}{16}$

14. **Explain It** Explain why it is necessary to rename $4\frac{1}{4}$ if you subtract $\frac{3}{4}$ from it.
