The following shows how place value and money are related.
ones

(dollars) $\quad$\begin{tabular}{c}
tenths \\
(dimes)

$\quad$

hundredths \\
(pennies)

$\quad$

thousandths \\
(tenths of a penny)
\end{tabular}

Write each fraction as a decimal and then say it.
(1) $\frac{349}{1,000}$ $\qquad$
(2) $\frac{6}{10}$
(3) $\frac{58}{100}$ $\qquad$
(4) $\frac{27}{1,000}$ $\qquad$
(5) $\frac{2}{10}$ $\qquad$
(6) $\frac{9}{100}$ $\qquad$
(7) $\frac{6}{1,000}$ $\qquad$
8 $\frac{71}{100}$ $\qquad$
(9) $\frac{90}{100}$ $\qquad$
(10) $\frac{843}{1,000}$ $\qquad$
(11) $\frac{5}{10}$ $\qquad$
(12) $\frac{4}{100}$ $\qquad$
(13) $\frac{1}{1,000}$ $\qquad$
(14) $\frac{45}{100}$ $\qquad$
(15) $\frac{896}{1,000}$ $\qquad$
(16) $\frac{58}{1,000}$ $\qquad$

Solve.
(17) A large building has 1,000 windows, and 5 of the windows need to be replaced. What decimal represents the number of windows that need to be replaced?
$\qquad$
(19) Jody made 10 party invitations.

Yesterday she mailed 4 of them. What decimal represents the number of invitations that have been mailed?
21) Mr. Chan handed out eight tenths of his flyers. Write a fraction and a decimal that represents the amount of the flyers that he handed out.
(18) At a reception, 23 of 100 pieces of wedding cake have been eaten. What decimal number represents the number of pieces of cake that have been eaten?
(20) There are 1,000 vehicles in a stadium parking lot; 422 of the vehicles are trucks. What decimal represents the number of vehicles that are trucks?
(22) Jason has an album that holds 100 trading cards. He has 52 trading cards in the album. Write a fraction and a decimal that represent the amount of the album that is filled.

Add.
(1) $\frac{1}{3}+\frac{1}{7}$
(2) $\frac{1}{5}+\frac{8}{15}$
(3) $\frac{3}{8}+\frac{1}{4}$

Subtract.
(4) $\frac{4}{5}-\frac{1}{8}$
(5) $\frac{5}{6}-\frac{5}{9}$
(6) $\frac{3}{5}-\frac{1}{12}$

## Add or Subtract.

(7) 5
$-3 \frac{5}{8}$
(8) $8 \frac{1}{5}$

| $+5 \frac{4}{7}$ |
| :--- |

(9) $11 \frac{2}{5}$
$-6 \frac{3}{20}$

Solve. Show your work.
(10) Kennedy served $15 \frac{3}{4}$ hours of volunteer service last month. She served $21 \frac{5}{6}$ hours of volunteer service this month. How many more hours did she serve this month?

11 Stretch Your Thinking Draw a diagram that shows 0.5 and $\frac{1}{2}$ are equivalent.

Write a decimal number for each word name.
(1) nine thousand, six hundred five and nine tenths
(2) two hundred ten thousand, fifty and nineteen hundredths
(3) three tenths
(4) seven thousandths
(5) eight hundredths

Write each amount as a decimal number.
(6) $\frac{602}{1,000}$ $\qquad$
(7) $\frac{21}{100}$ $\qquad$
(8) $4 \frac{9}{10}$ $\qquad$
(9) $14 \frac{27}{100}$ $\qquad$
(10) $35 \frac{712}{1,000}$ $\qquad$
(11) $9 \frac{5}{100}$ $\qquad$
(12) $24 \frac{13}{1,000}$ $\qquad$
(13) $3 \frac{68}{100}$ $\qquad$
(14) $2 \frac{1}{1,000}$ $\qquad$
(15) $63 \frac{7}{10}$ $\qquad$
(16) $\frac{84}{1,000}$ $\qquad$
(17) $29 \frac{4}{1,000}$
$\qquad$
(18) $8 \frac{17}{1,000}$ $\qquad$
(19) $\frac{6}{100}$ $\qquad$
(20) $5 \frac{106}{1,000}$ $\qquad$
(21) $37 \frac{3}{100}$ $\qquad$

Circle the value that is not equivalent to the other values.
(22) 2.6
2.60
2.06
2.600
(23) 4.07
4.070
4.70
4.0700
(24) 65.800
65.8
65.08
65.80
(25) 37.6
37.060
37.0600
37.06

26 Write three decimals that are equivalent.
(27) Write the decimals in Exercise 26 as fractions.

Add or Subtract.
(1) $8 \frac{1}{6}$
$-3 \frac{3}{8}$
(2) $6 \frac{3}{4}$
$\begin{array}{r}+2 \frac{4}{5} \\ \hline\end{array}$
(3) $9 \frac{2}{3}$

| $+5 \frac{7}{10}$ |
| :--- |

Solve.
(4) Tanner earns 5 credits while playing on a math review website. He uses $2 \frac{4}{15}$ credits while reviewing fractions. How many credits does he have left?

Estimate the sum or difference by rounding each mixed number to the nearest whole number. Then find the actual sum or difference.
(5) $15 \frac{5}{6}$
$-2 \frac{1}{5}$
(6) $8 \frac{3}{5}$
$+3 \frac{1}{2}$

Estimate: $\qquad$ Estimate: $\qquad$
Difference: $\qquad$ Sum: $\qquad$

Write each fraction as a decimal and then say it.
(7) $\frac{44}{100}$ $\qquad$
(8) $\frac{13}{1,000}$
(9) $\frac{3}{10}$ $\qquad$ (10) $\frac{541}{1,000}$

11 Stretch Your Thinking Draw two number lines that show 0.20 and $\frac{1}{5}$ are equivalent.

Write each amount as a decimal number.
(1) 9 tenths $\qquad$
(2) 52 thousandths
$\qquad$ (3) 8 hundredths $\qquad$
(4) 3 cents $\qquad$
(5) $\frac{65}{100}$ $\qquad$
(6) $\frac{548}{1,000}$ $\qquad$
(7) $\frac{12}{1,000}$ $\qquad$
(8) $\frac{7}{100}$ $\qquad$
(9) 4 thousandths $\qquad$

Circle the value that is not equivalent to the other values.
(10) 0.47
0.470
0.407
0.4700
(11) 0.5
0.50
$\frac{5}{10}$
0.05
(12) 0.801
0.810
0.81
0.8100
(13) 0.700
0.70
0.07
0.7
(14) 0.39
0.390
$\frac{39}{100}$
$\frac{39}{1,000}$
(15) 0.04
$0.40 \quad 0.040$
0.0400

Compare. Write > (greater than) or < (less than).
(16) 0.36
 0.8
(17) 0.405

0.62
(18) 0.91
 0.95
(19) 0.45
 0.4
200.836

0.83
(22) 0.621
 0.612
230.7

0.07
(21) 0.299
 0.3
(24) 0.504
 0.54

A store had the same amount of five fabrics. The chart shows the how much of each fabric is left. Use the data to answer each question.
(25) The store sold the most of which fabric? Explain.

26 The store sold the least of which fabric? Explain.

27 The same amount of which fabrics is left? Explain.

| Red fabric | 0.510 yd |
| :--- | :--- |
| Blue fabric | 0.492 yd |
| Yellow fabric | 0.6 yd |
| White fabric | 0.51 yd |
| Black fabric | 0.48 yd |

Estimate the sum or difference by rounding each mixed number to the nearest whole number. Then find the actual sum or difference.
(1) $3 \frac{7}{8}+4 \frac{2}{3}$
(2) $7 \frac{5}{8}-1 \frac{1}{2}$

Estimate: $\qquad$ Estimate: $\qquad$
Sum: $\qquad$ Difference: $\qquad$

Solve. Explain how you know your answer
Show your work. is reasonable.
(3) Eli practices for a piano recital $3 \frac{3}{4}$ hours in one week. In the same week, he practices basketball $1 \frac{2}{3}$ hours. How much longer does he practice for his piano recital?

Answer: $\qquad$
Why is the answer reasonable?
$\qquad$
$\qquad$

Write a decimal number for each word name.
(4) six hundred two and six tenths
(5) five thousandths
$\qquad$
$\qquad$
(6) Stretch Your Thinking Draw two number lines that show 0.200 and $\frac{1}{5}$ are equivalent.

The chart at the right shows the time each member of a relay team ran during a race. Use the data to answer each question.
(1) How much longer did Jack run than Dusty?

2 How much time did it take Brandon and Raj to complete their two legs of the race combined?
(3) Which two runners had the greatest difference in their running times? What is the difference?
$\qquad$

Copy each exercise. Then add or subtract.
(4) $0.9+0.06=$ $\qquad$
(5) $0.47+0.25=$ $\qquad$
(6) $0.56+0.91=$ $\qquad$
(7) $1.4-0.9=$ $\qquad$
(8) $5-1.5=$ $\qquad$
(9) $3.7-2.49=$ $\qquad$
$10.08+0.6=$ $\qquad$
(11) $0.48+0.39=$
(12) $19+1.04=$ $\qquad$
(13) $3-0.05=$ $\qquad$
(14) $4.09-0.2=$ $\qquad$
(15) $6.07-4=$ $\qquad$

Use benchmarks of $0, \frac{1}{2}$, and 1 to estimate the sum or difference. Then find the actual sum or difference.
(1) $\frac{7}{12}+\frac{5}{6}$

Estimate: $\qquad$
(2) $\frac{4}{9}-\frac{7}{18}$
Estimate: $\qquad$

Sum: $\qquad$ Difference: $\qquad$
Solve. Explain how you know your
Show your work. answer is reasonable.
(3) Jordan is making a beaded necklace. Two thirds of the beads she uses are red and $\frac{4}{21}$ of the beads are blue. She wants the rest to be white. What fraction of the beads should be white?

Answer: $\qquad$
Why is the answer reasonable?
$\qquad$
$\qquad$
$\qquad$
Compare. Write $>$ (greater than) or $<$ (less than).
(4) $0.2 \bigcirc$ 0.19
(5)
0.564
 0.602
(6) 0.08
 0.8
(7) Stretch Your Thinking Draw a diagram that shows $0.27+0.23=\frac{1}{2}$.

Use the number 724,062.58 for each exercise.
(1) Increase the number by 0.07 . $\qquad$
(2) Decrease the number by 100,000 . $\qquad$
(3) Add 8 in the hundreds place. $\qquad$
(4) Subtract 2 from the hundredths place.

Copy each exercise. Then add or subtract.
(5) $\$ 37+45 \not \subset=$ $\qquad$
(6) $\$ 82.06+25 \not \subset=$ $\qquad$ (7) $59 \not \subset+\$ 4.23=$ $\qquad$
(8) $9 \mathrm{~m}+0.05 \mathrm{~m}=$ $\qquad$ (9) $92.24+3.6=$ $\qquad$ (10) $5 \mathrm{~m}+0.08 \mathrm{~m}=$ $\qquad$
(11) $231+0.26=$ $\qquad$ (12) $46.08+0.97=$ $\qquad$ (13) $6.4 \mathrm{~m}+0.07 \mathrm{~m}=$ $\qquad$

Solve.
(14) Lina is making curtains and a decorative pillow for her bedroom. She needs 0.75 meter of cloth for the pillow and 4.67 meters for the curtains. How much cloth does she need in all?
(15) Olivia is buying a jacket that costs $\$ 85.99$. The sales tax that will be added to the cost of the jacket is $\$ 5.16$. What is the total cost of the jacket including sales tax?

Compare. Write $>$ (greater than) or $<$ (less than).
(1) $\frac{3}{7} \bigcirc \frac{3}{8}$
(2) $\frac{1}{8} \bigcirc \frac{1}{6}$
(3) $\frac{9}{11} \bigcirc \frac{7}{11}$
(4) $\frac{4}{8} \bigcirc \frac{5}{6}$
(5) $\frac{5}{6} \bigcirc \frac{3}{4}$
(6) $\frac{7}{12} \bigcirc \frac{6}{7}$

Compare. Write $>$ (greater than) or $<$ (less than).
(7) 0.17

0.109
(9) 0.29

(10) 0.61

(11) 0.81
 0.79
(12) 0.05
 0.5

Add or subtract.
(13) 0.8

| +0.07 |
| :--- |

(14) 0.22
$+0.49$
(15) 2.6
$-0.7$
(16) 5.6
$-4.87$
177
$-3.8$
180.96

$$
+0.17
$$

19 Stretch Your Thinking Write 4 different mixed decimals that equal 11 wholes. Draw a picture that shows you are correct.

Copy each exercise. Then subtract.
(1) $6,000-348=$ $\qquad$
(2) $7,364-937=$ $\qquad$
(3) $50,821-3,617=$ $\qquad$
(4) $720.95-286.4=$ $\qquad$ (5) $18,652-4.31=$ $\qquad$ (6) $350.6-176.54=$ $\qquad$

Solve. Show your work.
(7) Ahmad had a piece of rope that was 7.14 meters long. He cut off 0.09 meter to practice making knots. What was the length of the rope after the cut?
$\qquad$
8 Natasha has a large collection of books. The thickest book measures 4.9 centimeters. The thinnest book measures 1.8 centimeters. What is the difference in thicknesses of those two books?
$\qquad$
(9) Yoshi saved \$1,238.46 for a vacation in Mexico. While in Mexico, she spent \$975. What amount of money did Yoshi not spend?
(10) Tarantulas are one of the largest spiders on Earth. A tarantula can grow to be about 6.8 centimeters long.
A spitting spider can grow to be about 0.9 centimeters long. About how much longer are the largest tarantulas than the largest spitting spiders?
$\qquad$

Write the mixed number as a fraction.
(1) $1 \frac{3}{5}=$ $\qquad$
(2) $3 \frac{1}{8}=$ $\qquad$
(3) $2 \frac{2}{3}=$ $\qquad$
(4) $4 \frac{4}{7}=$ $\qquad$
(5) $1 \frac{1}{3}=$ $\qquad$
(6) $3 \frac{5}{6}=$ $\qquad$

## Add or subtract.

(7) 6
$-4.1$
(8) 0.32
0.92
+
(11) $32 \not \subset+66 \phi=$
(10) $44 \phi+\$ 4.87=$

Solve.
(13) When Erin got her puppy, Cuddles, he weighed 788.52 grams. He now weighs 2,313.6 grams more than he did when Erin first brought him home. How much does Cuddles weigh now?
(14) Stretch Your Thinking Write a subtraction equation with a difference of 54.57 . Then draw a number line to show between which two whole numbers the difference lies.
$\qquad$

Use what you know about the Commutative Property to solve for $n$.
(1) $26,184+1,546=1,546+n$
(2) $17.39+12.58=12.58+n$
$n=$ $\qquad$ $n=$ $\qquad$

Regroup the numbers using the Associative Property. Then add.
(3) $\left(\frac{7}{10}+\frac{3}{4}\right)+\frac{1}{4}=$
(4) $1.02+(0.98+4.87)=$
$\qquad$
(5) $2 \frac{5}{8}+\left(\frac{3}{8}+\frac{2}{3}\right)=$

Use the Distributive Property to rewrite the problem so it has only two factors. Then solve.
(6) $(25 \times 9)+(75 \times 9)=$

Group the numbers to make the addition easier. Then add.
(7) 20,000
70,000
30,000
68,000
$\begin{array}{r}+80,000 \\ \hline\end{array}$
(8) 10.75
10.4
10.25
10.57

| +10.6 |
| :--- |

(9) 1.600
1.200
1.200
$\begin{array}{r}1.479 \\ \hline\end{array}$
(10) $1 \frac{7}{11}$
$5 \frac{5}{6}$
$\frac{3}{11}$
$2 \frac{1}{6}$
$+\frac{1}{11}$
(11) On Monday, Mr. Borden ran 4.6 miles in the morning and 0.78 miles that afternoon. On Tuesday, he ran 3.4 miles. How much did he run on Monday and Tuesday all together. Write an equation and solve.

Solve.
Show your work.
(1) Trent is making a week's worth of after-school snacks for himself and his sister. He uses $1 \frac{1}{5}$ cups of mixed nuts and $2 \frac{3}{4}$ cups of granola. How many cups did he use in all?
(2) Shannon walked $4 \frac{7}{8}$ miles and ran $3 \frac{1}{2}$ miles during the week. How much further did she walk than run?

Add.
(3) $\$ 54.25+55 \phi=$ $\qquad$
(4) $68 \phi+21 \phi=$ $\qquad$
(5) $92 \not \subset+\$ 2.39=$ $\qquad$
(6) 0.06 m
(7) $\quad 0.44 \mathrm{~m}$
(8) 5.6 m
$+0.15 \mathrm{~m}$
$\begin{array}{r}+0.7 \mathrm{~m} \\ \hline\end{array}$

Subtract.
(9) 70,763
(10) $\begin{array}{r}6,982 \\ -\quad 455\end{array}$
(11) $\begin{array}{r}5,000 \\ -\quad 452 \\ \hline\end{array}$
(12) 46,872

$$
\begin{aligned}
& -\quad 8.28 \\
& \hline
\end{aligned}
$$

(13) 561.5
$-478.49$
(14) 676.54
$\begin{array}{r}-196.9 \\ \hline\end{array}$
(15) Stretch Your Thinking Use decimals and fractions in the same equation showing the Commutative Property. Repeat for the Associative Property.

Round to the nearest whole number.
(1) 8.36
$\qquad$
(2) 18.7 $\qquad$
(3) 9.831 $\qquad$

Round to the nearest tenth.
(4) 24.316 $\qquad$
(5) 5.28 $\qquad$
(6) 23.017 $\qquad$

Round to the nearest hundredth.
(7) 58.635 $\qquad$ (8) 7.214 $\qquad$
(9) 210.097 $\qquad$

Estimate each sum or difference.

10 \$46.78-\$18.55 $\qquad$ (11) $12.3+4.7$ $\qquad$ (12) $9.586+3.097$ $\qquad$
Solve.
Show your work.
(13) A decimal number changed to 23.7 after it was rounded.

Give a decimal number that is less than 23.7 and another that is greater than 23.7 that each round to 23.7. Explain to what place each number was rounded.
$\qquad$
$\qquad$
(14) When Marla rounded 19.95 to the nearest tenth, she found the number changed to 20. Is this correct? Explain.
$\qquad$
(15) Peter decided that the total cost for a $\$ 24.55$ pair of jeans and a $\$ 12.25$ shirt was $\$ 26.80$. Was Peter's answer reasonable?
Explain why or why not.

16 Biruk wants to buy a book for $\$ 15.25$ and a book for $\$ 4.85$. He wants to pay with one $\$ 20$ bill. Use estimation to decide if this is reasonable. Explain to what place value to round for an estimate that is useful in this situation.

## Solve.

Show your work.
(1) Matt pours $3 \frac{2}{3}$ cups of orange juice into a measuring cup from a large container.
Then he pours $1 \frac{1}{4}$ cups back into the container. How much orange juice remains in the measuring cup?
(2) The school cafeteria manager orders $7 \frac{3}{8}$ pounds of red onions and $10 \frac{1}{2}$ pounds of yellow onions. How many pounds of onions did the manager order in all?

Subtract.
(3) 21,445
$-3,548$
(4) 980.3
(5) 774.12
$-248.8$

Use the Distributive Property to rewrite each problem so it has only two factors. Then solve.
(6) $(5 \times 600)+(5 \times 400)=$ $\qquad$
(7) $(15 \times 6)+(85 \times 6)=$

8 Stretch Your Thinking Name three decimals between 16.4 and 16.5.
Draw a number line estimating the placement of all five decimals.

## Multiply.

(1) $45 \cdot 3=$ $\qquad$
(2) $431 \cdot 6=$ $\qquad$
(3) $17 \cdot 32=$ $\qquad$
(4) $34 \cdot 67=$ $\qquad$
(5) $1,509 \cdot 3=$ $\qquad$
(6) $5,098 \cdot 7=$ $\qquad$

Regroup the numbers using the Associative Property. Then add.
(7) $3.6+(0.4+0.25)=$
(8) $2 \frac{6}{10}+\left(\frac{4}{10}+\frac{4}{5}\right)=$ $\qquad$

Estimate each sum or difference.
(9) $7.535+2.706$
(10) $\$ 27.89-\$ 12.64$
(11) $11.1+9.9$
(12) Stretch Your Thinking The bar graph shows the heights of bean plants for four students in Mrs. Jarnigan's fourth-grade science class.


Write a two-step problem using the data from the graph.
$\qquad$
$\qquad$
$\qquad$
$\qquad$

Multiply.
(1) $45 \cdot 3=$ $\qquad$
(2) $431 \cdot 6=$ $\qquad$
(3) $17 \cdot 32=$ $\qquad$
(4) $34 \cdot 67=$ $\qquad$
(5) $1,509 \cdot 3=$ $\qquad$
(6) $5,098 \cdot 7=$ $\qquad$

Regroup the numbers using the Associative Property. Then add.
(7) $3.6+(0.4+0.25)=$
(8) $2 \frac{6}{10}+\left(\frac{4}{10}+\frac{4}{5}\right)=$ $\qquad$
Estimate each sum or difference.
(9) $7.535+2.706$
(10) $\$ 27.89-\$ 12.64$
(11) $11.1+9.9$
(12) Stretch Your Thinking The bar graph shows the heights of bean plants for four students in Mrs. Jarnigan's fourth-grade science class.


Write a two-step problem using the data from the graph.
$\qquad$
$\qquad$
$\qquad$
$\qquad$

Look again at the table on Student Book page 54.
It shows how far from the sun the planets in our solar
system orbit. For example, it shows that Jupiter (5.2 AU)
orbits about 5 times farther from the sun than
Earth ( 1 AU ) because $1 \times 5=5$.
On a grid where 1 grid square $=1 \mathrm{AU}$, a dot for Earth would be 1 grid square away from the sun, and a dot for Jupiter would be about 5 grid squares away.

On the left side of the grid below, draw a dot to represent the sun. Then using the scale 1 grid square $=1 \mathrm{AU}$, draw and label a dot for each of the eight planets to show their relative distances from the sun.


## Solve.

Show your work.
(1) During a movie, Kelley eats $12 \frac{2}{7}$ ounces of snack mix and Madison eats $15 \frac{3}{4}$ ounces of snack mix. How much did they eat altogether?
$\qquad$
(2) Caleb practices the piano for $15 \frac{2}{3}$ minutes on Monday and $21 \frac{1}{2}$ minutes on Tuesday. How much longer did he practice on Tuesday?

Estimate each sum or difference.
(3) $13.2+52.7$
(4) $19.454+1.897$
(5) $\$ 33.03-\$ 10.78$

Carly made a bar graph to show how far each of her toy cars traveled.
(6) How much farther did Carly's yellow car travel than her blue car?
(7) What is the greatest and least distance traveled? What is the difference between the two distances?

8 Stretch Your Thinking Brad has 32 ounces of mixed fruit to share with three friends. He gives 7.65 ounces
 to Carrie, 8.02 ounces to Joshua, and 6.88 ounces to Terrell. How much mixed fruit is left for Brad?

