$\qquad$

國國 page 696

# - Reading and Ordering Decimal Numbers Through Ten-Thousandths 

## Teacher Notes:

- Review Hint \#44 "Decimal Place Value (Digit Lines)."
- Review "Place Value" on page 13 in the Student Reference Guide.


## New Goneeptt

- Each place in the chart below is one tenth of the value of the place to its left.
- Bills and coins can show place value.

| tens <br> place | ones <br> place | tenths <br> place | hundredths <br> place | ten- <br> thousandths <br> place | place <br> thousandths <br> place |
| :---: | :---: | :---: | :---: | :---: | :---: |
| ${ } }$ | $\$ 1$ bills | dimes | pennies | mills |  |

- To compare or order the decimal numbers $0.45,0.457$, and 0.5 :

1. Line up the decimal points.
2. Attach zeros so that all numbers have the same number of decimal places.
0.450
0.457
0.500
3. Compare the digits in the tenths places.
4. Compare the hundredths places.
5. Compare the thousandths places.
6. Arrange from least to greatest.

$$
0.450,0.457,0.500
$$

7. Remove any unnecessary zeros.
$0.45,0.457,0.5$

## Lesson Practice

a.

decimal number using words: $\qquad$
decimal: $\qquad$ . $\qquad$ fraction: $\qquad$
Use words to name each number:
b. 6.875 $\qquad$
c. 0.025 $\qquad$
d. 0.16

Round each decimal number to the nearest whole number:
e. $4 .(3) 75 \longrightarrow$ $\qquad$
f. 2 .(6) $25 \longrightarrow$ $\qquad$ g. 1.(3) $3 \longrightarrow$ $\qquad$
h. Compare: 0.3750.0375
0.375 0.0375
i. Arrange these numbers in order from least to greatest:

### 0.15

0.102
0.125
 , $\qquad$ , $\qquad$ , $\qquad$

0.1
least
j. Use digits to write one hundred twenty-five thousandths.
$\qquad$ . $\qquad$

2. 0.37 m
?


1 m
( 100 cm )
1.00 m
0.37 m

3. decimal and reduced mixed number shaded

4. Estimate the product.
8.(3)3 $\longrightarrow$
7.(6)67 $\qquad$
5. first five multiples of 8

8, $\qquad$ , $\qquad$ ,
6. a. $\frac{3}{5}$ of 30
b.
30 total
c. $\frac{\text { boys }}{\text { girls }}$ $\qquad$
is of

$\qquad$ girls
boys
Reduce.
a.
b.
7. Estimate the sum.

8. 5.375
words: $\qquad$
$\qquad$
$\qquad$

Use work area.

a. The perimeter of the square is how many units? $\xrightarrow{ }$
b. The area of the square is how many square units?

c. On the grid, draw the square translated one unit to the right and one unit up.

| 10. least to greatest | 11. $4 \frac{3}{8}$ | 12. $3 \frac{7}{10}$ |
| :---: | :---: | :---: |
| 0.96 | $+1 \frac{3}{8}$ | $+\frac{3}{10}$ |
| 0.875 |  |  |
| 0.9 |  |  |
| 1. |  |  |
|  | Reduce. |  |
| ! | ! | 1 |


21. $-\times \frac{3}{10}=$
$\qquad$
22. $5 \div \frac{2}{3}=$
$-\times-=$

23．$\frac{1}{6}=\overline{24}$

$$
\frac{1}{8}=+\underline{24}
$$

24．See 圈目 page 701.
a．$\frac{1}{3} \times=$
$\frac{1}{3}=$ $\qquad$ percent
b．Which two groups total $\frac{1}{2}$ ？
A black and brown
B brown and blue
C blue and black
D blue and red


26．Write in uppercase the 8th letter of the alphabet．Show two lines of symmetry．
25.


4 in．

Volume $=$ length $\times$ width $\times$ height

30．See 國國 page 702.
$\frac{3}{4}$ of the 24 students wore a jacket to school．
Which diagram shows the number of students who wore a jacket to school？
$\qquad$

图國 page 703

## - Using Percent to Name Part of a Group

## New Conceptt

- Percent means "per hundred."
- Like fractions, percents can be used to name part of a group.
- To name part of a group using percent:

1. Put the little number over the big number.
2. Multiply the loop (little number $\times 100$ ).
3. Divide by the outside (big) number.
4. Remember to write the percent sign.

## Example

If $\mathbf{8}$ of the $\mathbf{2 0}$ students are boys, what percent of the students
are boys? $\quad \frac{8}{20}=\frac{?}{100} \rightarrow \frac{800}{20}$
To make the division easier, cancel the matching zeros:

$$
\frac{80 \emptyset}{2 \emptyset}=40 \%
$$

## Lesson Practice

a. If $\mathbf{1 2 0}$ of the $\mathbf{2 0 0}$ students are girls, then what percent of the students are girls?
little
big
200
$\frac{120}{100}$
b. If $\mathbf{1 0}$ of the $\mathbf{5 0}$ apples are green, then what percent of the apples are green?

c. Sixty out of $\mathbf{3 0 0}$ is like how many out of 100 ?

$\qquad$
d. Forty-eight out of $\mathbf{2 0 0}$ is what percent?
e. Thirty out of $\mathbf{5 0}$ is what percent?

$\qquad$
f. If half of the people ate lunch, then what percent of the people ate lunch?

$\qquad$
g. Five minutes is $\frac{1}{12}$ of an hour. Five minutes is what percent of an hour?

$\qquad$

## Wifteten Practice

1. 1 second faster
"Faster" means less time.
63.8 s
$\qquad$
2. Estimate the area.
$9 \frac{7}{8} \longrightarrow$
$6 \frac{3}{4} \longrightarrow$

3. Ignore the remainder.

4. Estimate.
$\$ 6.98 \longrightarrow$ $\times 8$
5. If $\mathbf{6 0}$ of the $\mathbf{2 0 0}$ students are girls, then what percent of the students are girls?

6. $\frac{1}{10}+\frac{1}{10}$
 $0.1+0.1$
7. Estimate the quotient.
$19.8 \longrightarrow$
$3.875 \longrightarrow$
8. If a bag contains 50 marbles and 10 of them are green, then what percent of the marbles are green?

9.     - Write a fraction equal to $\frac{1}{3}$ that has a denominator of 6.

- Add it to $\frac{1}{6}$ and reduce.

10. 


a. The perimeter of the rectangle is how many units?
b. The area is how many square units?

11. Find $Q R$.
12. $\frac{31}{100}+\frac{29}{100}=$

Label the figure.


Simplify.

13. $5-3 \frac{7}{10}=$
14. $5-3.7=$
15.

$$
\begin{array}{r}
\$ 3.65 \\
\times \quad 10
\end{array}
$$



16.

468
$\times 579$
17.
$\begin{array}{r}0 \\ \hline \$ 3 \quad 6.5 \quad 0\end{array}$
19. $640 \div 32=$

Think $3 0 \longdiv { 6 0 0 }$.
20. $\frac{3}{10} \times \frac{7}{10}=$

21. $4 \div \frac{3}{5}=$
22. a. Julian's votes
b. fraction for Chloe
$\frac{\text { Chloe }}{\text { total }}-=-$

Simplify.
Election Results

| Julian | HK XH II |
| :--- | :--- |
| Debbie | HK II |
| Patrick | KH |
| Chloe | HK III |

c. average

23. Which arrow could be pointing to 1.3275 ?

24. Reduce:
$\frac{25}{100}=$
25. $10^{3}-\sqrt{100}=$

$\qquad$ - $\qquad$
26.

27. coordinates of each vertex from problem 26

A $\qquad$ , $\qquad$

B $\qquad$ , $\qquad$ )

C $\qquad$ ,

a. Triangle $A B C$ is which type of triangle? $\qquad$
A acute
B right
C obtuse
D regular
b. On the grid, draw the image of the triangle reflected across the horizontal line $y=3$.

Use work area.

Use work area.
28. Estimate the volume.
$7 \frac{7}{8} \longrightarrow$
$4 \frac{1}{4} \longrightarrow$
$1 \frac{7}{8} \rightarrow$
Volume $=$ length $\times$ width $\times$ height

29. $\frac{3}{4}+1 \frac{1}{4}=$ $\qquad$

My answer is reasonable because $1 \frac{4}{4}$ is the same as
$\qquad$
30. a. greatest to least
life span years
$\qquad$
$\qquad$
$\qquad$
$\qquad$
b. A lion lives $\qquad$ times $\qquad$ than a meadow mouse.
$\qquad$

图国 page 710

## －Schedules

## New Gonocpt

－A schedule is a list of times and events that shows when the events are planned to happen．

## Reading and Interpreting a Schedule

－This activity is optional．

## Lesson Practice

| Time | Event |
| :---: | :--- |
| 10：45 a．m． | 400－meter relay |
| 12：00 p．m． | 100－meter high hurdles |
| 12：15 p．m． | 110－meter high hurdles |
| 12：30 p．m． | 100－meter dash |
| 12：55 p．m． | 400－meter dash |
| Intermission |  |
| 2：00 p．m． | 1600－meter run |
| 3：10 p．m． | 300－meter low hurdles |
| 3：25 p．m． | 300－meter intermediate hurdles |
| 3：40 p．m． | 200－meter dash |
| 4：10 p．m． | 1600－meter relay |

a．Tadeo qualified for the 1600－meter run．He usually starts warming up 45 minutes before the start of the race．At what time should Tadeo start his warm－up？

b. D'Janelle is the leading qualifier in both the 100-meter and 200-meter dashes. How much time is scheduled between the start of those two events?


| Date | Depart | Arrive |
| :---: | :--- | :--- |
| Aug 22 | 6:11 a.m. Okla. City | 8:09 a.m. Chicago |
| Aug 22 | 9:43 a.m. Chicago | 10:38 a.m. Indianapolis |
| Aug 29 | 9:58 a.m. Indianapolis | 11:03 a.m. St. Louis |
| Aug 29 | 12:04 p.m. St. Louis | 1:33 p.m. Okla. City |

c. David's departure from Indianapolis is how many days after his arrival?
d. For his flight to Indianapolis, David wants to get to the Oklahoma City airport one hour before the scheduled take-off. The drive from David's home to the airport usually takes half an hour. About what time should David leave home to drive to the airport?
A 4:00 a.m.
B 4:30 a.m.
C 5:00 a.m.
D 5:30 a.m.
e. Luke rode the train from Chicago to Springfield. Here is the schedule for the train he boarded:

| Station | Arrive | Depart |
| :--- | :---: | :---: |
| Chicago, IL |  | 10:45 a.m. |
| Joliet, IL | 11:55 a.m. | 11:55 a.m. |
| Bloomington, IL | 02:05 p.m. | 02:35 p.m. |
| Springfield, IL | 03:50 p.m. | $03: 55$ p.m. |
| St. Louis, MO | 05:40 p.m. |  |

From the time the train departs Chicago until the time it arrives in Springfield is how many hours and minutes?


1. forty-five million, four hundred fifty-four thousand, five hundred milligrams

2. a. $\frac{15}{25}=-100$
b. $\frac{\text { boys }}{\text { girls }}=$

Reduce but don't convert.
7. Estimate the sum.
$12.7 \longrightarrow$
$8.167 \longrightarrow$ $\qquad$
8. $80 \%=\overline{100}$

Reduce.
9. $50 \% \circlearrowleft \frac{1}{2}$
10. $45^{2}=$
11. 76.345
words: $\qquad$
$\qquad$
$\qquad$
tenths place: $\qquad$
12.

a. The perimeter of the rectangle is how many units?
b. The area of the rectangle is how many square units?
13. Find $W Z$.
$\frac{1}{2}$ of 48 mm is $\qquad$ mm.


15. $4.2-(3-0.45)=$ | (3) |
| :--- |
|  |
| 1 |
| 1 |
16. 

$1 5 \longdiv { \$ 3 \quad 7 . 0 \quad 5 }$
17. - Write a fraction equal to $\frac{1}{2}$ that has a denominator of 6 .

- Add it to $\frac{1}{6}$ and reduce.


24. a. Which score was made by the greatest number of students?
b. Count the students who got 15 or more correct.

Subtract that number from the 25 who took the test.
c. range $\longrightarrow$ span
highest
__ lowest

| Test Results |  |
| :---: | :---: |
| Score | Number of Students |
| 20 | 4 |
| 19 | 4 |
| 18 | 5 |
| 17 | 6 |
| 16 | 3 |
| 15 | 2 |

d. Which score is in the middle of the list?
$20,20,20,20,19,19,19,19,18,18,18,18,18$,
$17,17,17,17,17,17,16,16,16,15,15,13$


25．Volume $=$ length $\times$ width $\times$ height

26. feet
feet in a yard


Two feet is $\frac{2}{3}$ of a $\qquad$ ， and $\frac{2}{3}$ as a percent is $\qquad$ －

27．a．This star has how many lines of symmetry？
b．The star has how many sides？
What kind of polygon is the star？


See 國国 page 199.

b．

28．D＇Jon $\longrightarrow 1$ goal
Chazz（D＇Jon＋1）$\longrightarrow$

Pablo（Chazz＋1）$\longrightarrow$ $\qquad$ | r－－－－－－－－－－－－－－－－－－－ |
| :--- | :--- |
| 1 |
| 1 |

29．$(14 \div)+1=$ $\qquad$
30.

difference from highest temperature to $0 \quad \longrightarrow$
difference from lowest
temperature to 0

sum of the differences $\longrightarrow$
$\qquad$

## - Multiplying Decimal Numbers

## Teacher Notes:

- Introduce Hint \#60 "Decimal Arithmetic Reminders Chart."
- Review "Decimal Arithmetic Reminders Chart" on page 9 in the Student Reference Guide.
- For additional practice, students may complete Targeted Practice 109.


## New Gonoept

- To multiply decimal numbers:

1. Multiply the numbers.
2. Count the digits to the right of the decimals.
3. Put the same number of digits to the right of the decimal in the answer.

## Example

0.122 digits to right of decimal point
$\times \quad 60$ digits to right of decimal point
$0.72{ }^{2}$ digits to right of decimal point
1
250 digits to right of decimal point
$\times 0.31$ digit to right of decimal point
7.5 digit to right of decimal point

4
0.152 digits to right of decimal point
$\times 0.91$ digit to right of decimal point
0.1353 digits to right of decimal point

## Lesson Practice

Multiply:
a.
$\begin{array}{r}0.3 \\ \times \quad 4 \\ \hline\end{array}$
b.
3
$\begin{array}{r}\times 0.6 \\ \hline\end{array}$
c.
0.12
$\times \quad 12$
d. $\quad 1.4$
$\begin{array}{r} \\ \times 0.7 \\ \hline\end{array}$
e. $\quad 0.3$
$\begin{array}{r}\times 0.5 \\ \hline\end{array}$
f.

$$
\begin{array}{r}
1.2 \\
\times \quad 3 \\
\hline
\end{array}
$$

g. $\quad 1.5$
$\begin{array}{r} \\ \times 0.5 \\ \hline\end{array}$
h. 0.25

| $\times \quad 1.1$ |
| :--- |

i. Compare: $\frac{3}{10} \times \frac{3}{10}$
$0.3 \times 0.3$
j. What is the area of this square?

0.8 cm


## Wirtuen Practice

1. Refer to page 719 to complete this chart.

Decimals Chart

| Operation | + or - | $\times$ |
| :---: | :---: | :---: |
| Memory cue | $\begin{gathered} 1 \_ \text {up } \\ \pm . \\ \hline \end{gathered}$ | $x$; then c $\frac{x \cdot-}{\cdot--}$ |
| You may need to ... <br> - Place ad $\qquad$ point on the e $\qquad$ of whole numbers. <br> - Fill empty places with z $\qquad$ |  |  |

2. Forty of Lauren's 50 answers were correct. What percent of Lauren's answers were correct?

3. $\frac{1}{10} \times \frac{1}{10} \quad 0.1 \times 0.1$
$\downarrow$

4. midnight: $\qquad$

Count minutes back. $\qquad$
5. one hundred one and one hundred one thousandths

6.

7. first five multiples of 10

10, $\qquad$ , $\qquad$ , $\qquad$ ,
8. Estimate the difference.
$\$ 23.20 \longrightarrow$
$\$ 6.95 \longrightarrow$ $\qquad$

I r both amounts to the nearest dollar and then
$S$ $\qquad$ . $\qquad$ $=$ $\qquad$
9.

a. How many units is the perimeter of the rectangle?
b. How many square units is the area of the rectangle?
a.
b.
10. Write as reduced fractions.
a. $10 \%=\frac{}{100}=$
b. $20 \%=\frac{}{100}=$

Use work area.
12. $1-(1.36-0.8)=$
11. 32.30

$\qquad$ . | r--------------- |
| :--- |
| 1 |
| 1 |

14. 0.15
$\times \quad .9$
15. 

$6 \longdiv { \$ 8 . 7 6 }$
18. $980 \div 28=$

Think $3 0 \longdiv { 1 0 0 0 }$.
19. $1 \frac{3}{5}$
$\begin{array}{r}+1 \frac{1}{5} \\ \hline\end{array}$


28．See 膡國 page 721.
a．How much time for each soccer game？
b．How much time between games at the same venue？

29.

110 minutes movie length
+40 minutes time between showings
total elapsed time
Divide total minutes by 60 to find the number of elapsed hours (the remainder will represent leftover minutes).
hours, $\qquad$ minutes
$6 0 \longdiv { }$
first showing begins: $\qquad$

Count hours forward. $\qquad$

Count minutes forward. $\qquad$

30. Average Monthly Temperature Seattle, WA

| Month | Temperature <br> ( ${ }^{\circ}$ F) |
| :--- | :---: |
| January | 41 |
| February | 43 |
| March | 46 |
| April | 50 |
| May | 56 |


question: $\qquad$
$\qquad$
question: $\qquad$
$\qquad$

图国 page 723

## - Multiplying Decimal Numbers: Using Zeros as Placeholders

## Teacher Notes:

- Review Hint \#60 "Decimal Arithmetic Reminders Chart."
- Review "Decimal Arithmetic Reminders Chart" on page 9 in the Student Reference Guide.
- For additional practice, students may complete Targeted Practice 110.


## New Gonoept

- To multiply decimal numbers:

1. Multiply the numbers.
2. Count the digits to the right of the decimals.
3. Put the same number of digits to the right of the decimal in the answer.
4. Fill empty spaces with zeros.

| 0.12 |  |
| :---: | :---: |
| + 0.3 |  |
| 36 |  |
| $\downarrow$ |  |
| 0.12 | 2 digits after the decimal point |
| + 0.3 | 1 digit after the decimal point |
| 0.036 | 3 digits after the decimal point |

## Lesson Practice

Multiply:
a. $\begin{array}{r}0.25 \\ \times \quad 0.3 \\ \hline\end{array}$
b. $\quad 0.12$
c.
0.125
d. 0.05

| $\times \quad 0.3$ |
| :--- |

$\begin{array}{r}0.03 \\ \hline\end{array}$
e. 0.03

| $\times 0.3$ |
| :--- |

$\times .12$
$\times$
$\begin{array}{r}\times 0.3 \\ \hline\end{array}$
f.
3.2
$\times 0.03$
g. $\quad 0.16$
h.
0.12
$\begin{array}{r} \\ \times \quad 0.2 \\ \hline\end{array}$
i. $\quad 0.01$
$\begin{array}{r} \\ \times \quad 0.1 \\ \hline\end{array}$
j. $\quad 0.12$
$\times .07$
$\times$

Lesson Practice, continued
k. What is the area of this rectangle?


## Widtuen Practice

1. Estimate the product.
$5.375 \longrightarrow$
$3.8 \longrightarrow$
2. 


3. Write as reduced fractions.
4. $\frac{2}{5}$ of 100

a. $30 \%=-=-$
b. $40 \%=-=-$
5. a. length in centimeters and millimeters

|  |  |
| :---: | :---: |
|  |  |

b. $\frac{1}{3}$ of segment in centimeters


6. - Write a fraction equal to $\frac{5}{6}$ that has a denominator of 12 .

- Write a fraction equal to $\frac{1}{4}$ that has a denominator of 12 .
- Add them and convert.


7. 


a. How many units is the perimeter of this hexagon?
b. How many square units is the area of the hexagon?

8. $D$

a. In rectangle $A B C D$, which segment is parallel to $\overline{A B}$ ?
b. In rectangle $A B C D$, which two segments are perpendicular to $\overline{A B}$ ?
9. 0.375
unreduced fraction: $\qquad$ words: $\qquad$
$\qquad$
$\qquad$

Remember to write the segment symbols.


21. a. total percent
b. $\frac{1}{4}$ of students chose what project?
c. probability of a $B$

22. a. Draw the next term of this sequence:

b. What transformation changes the terms of the sequence? name for a turn
$\qquad$

23．Felipe＇s school day：

Count hours forward（7：55 a．m．$\rightarrow$ 2：55 p．m．）： $\qquad$ hours

Count minutes forward（2：55 p．m．$\rightarrow 3: 10$ p．m．）： $\qquad$ minutes

Natalie＇s school day：

Count hours forward（8：15 a．m．$\longrightarrow 3: 15$ p．m．）： $\qquad$ hours

Count minutes forward（3：15 p．m．$\rightarrow 3: 25$ p．m．）： $\qquad$ minutes
$\qquad$ school day is $\qquad$ minutes longer．

24．a．See 國 page 727.

Write the last names in order of finish．

1st： $\qquad$

2nd： $\qquad$

3rd： $\qquad$
b．How much faster was first place than third place？ $\qquad$
．3rd place
．1st place
faster

25．your age： $\qquad$
family member＇s age： $\qquad$
common factors： $\qquad$

How many？
26. List prime numbers greater than 20 but less than 25 : $\qquad$

List composite numbers greater than 20 but less than 25: $\qquad$

How many of each?

29. Is 70 a reasonable estimate of $277 \div 4$ ?
$\qquad$ ,
because by using compatible $\qquad$ , 277 is
close to $\qquad$ and $\qquad$ $\div 4=$ $\qquad$ .
30.

| Batches of oatmeal cookies | 1 | 2 | 3 | 4 |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Cups of flour | $2 \frac{1}{4}$ | $4 \frac{1}{2}$ | $6 \frac{3}{4}$ | 9 |  |  |

How many cups of flour for 6 batches?


