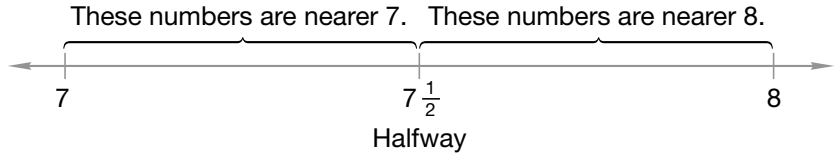


• **Rounding Mixed Numbers**

- To round a mixed number, compare the fraction to  $\frac{1}{2}$ .  
 If the fraction is greater than or equal to  $\frac{1}{2}$ , round up to the nearest whole number.  
 If the fraction is less than  $\frac{1}{2}$ , round down to the nearest whole number.



**Examples:**  $7^2$  rounds up to 8 because  $\frac{2}{3} > \frac{1}{2}$ .  
 $7^1$  rounds down to 7 because  $\frac{1}{4} < \frac{1}{2}$ .

**Practice:**

Round each mixed number to the nearest whole number. Write the answer and explain how you rounded.

- $7^2 \rightarrow$  \_\_\_\_\_
- $1^1 \rightarrow$  \_\_\_\_\_
- $1^7 \rightarrow$  \_\_\_\_\_
- $\rightarrow$  \_\_\_\_\_
- $8^8 \rightarrow$  \_\_\_\_\_
- $1^12 \rightarrow$  \_\_\_\_\_
- Round  $8^7$  to the nearest whole number. \_\_\_\_\_
- Round  $2^11$  to the nearest whole number. \_\_\_\_\_
- Round  $1^1$  to the nearest whole number. \_\_\_\_\_

\_\_\_\_\_

$1^1$  n.



8 n.

### • Subtracting Decimal Numbers Using Zeros

- Line up the decimal points.
- Use zeros as placeholders.
- Put a decimal point to the right of any whole number.
- Subtract after borrowing across places.

#### Examples:

$$0.6 - 0.325 \rightarrow \begin{array}{r} \phantom{0.}^{\text{5}}\cancel{0}^{\text{9}}\phantom{0}^{\text{1}} \\ - 0.325 \\ \hline 0.275 \end{array}$$

$$4 - 2.679 \rightarrow \begin{array}{r} \phantom{4.}^{\text{3}}\cancel{0}^{\text{9}}\phantom{0}^{\text{9}}\phantom{0}^{\text{1}} \\ - 2.679 \\ \hline 1.321 \end{array}$$

#### Practice:

Subtract.

1.  $0.5 - 0.38$

$$\begin{array}{r} 0.50 \\ - \phantom{0.} \\ \hline \end{array}$$

2.  $0.5 - 0.48$

$$\begin{array}{r} 0.50 \\ - \phantom{0.} \\ \hline \end{array}$$

3.  $6.7 - 0.89$

$$\begin{array}{r} 6.70 \\ - \phantom{0.} \\ \hline \end{array}$$

4.  $6.5 - 0.65$

$$\begin{array}{r} 6.50 \\ - \phantom{0.} \\ \hline \end{array}$$

5.  $6.05 - 0.605$

$$\begin{array}{r} 6.05 \\ - \phantom{0.} \\ \hline \end{array}$$

6.  $10.842 - 9.5$

$$\begin{array}{r} 10.842 \\ - \phantom{0.} \\ \hline \end{array}$$

7.  $12.46 - 0.124$

$$\begin{array}{r} 12.460 \\ - \phantom{0.} \\ \hline \end{array}$$

8.  $15.012 - 1.501$

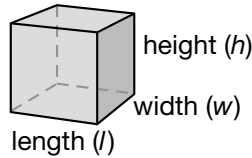
$$\begin{array}{r} 15.012 \\ - \phantom{0.} \\ \hline \end{array}$$

9.  $3.2609 - 3.2499$

$$\begin{array}{r} 3.2609 \\ - \phantom{0.} \\ \hline \end{array}$$

• **Volume**

- The **volume** of a shape is the amount of space the shape occupies.
- Volume is measured in cubic units.
- $V = l \times w \times h$

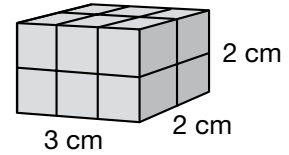


**Example:** Find the volume of this rectangular solid.

$$V = l \times w \times h$$

$$V = 3 \times 2 \times 2$$

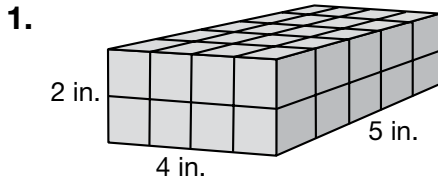
$$V = 12 \text{ cubic centimeters}$$



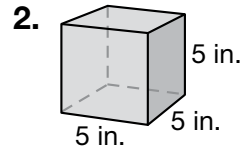
- To estimate volume, round the measures before multiplying.

**Practice:**

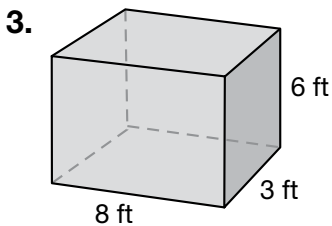
Find the volume of each rectangular solid. Remember to write the units.



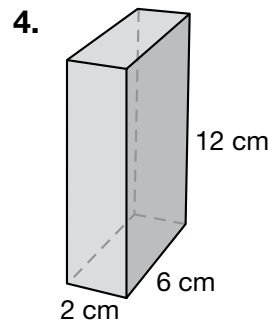
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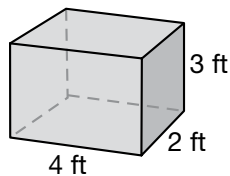


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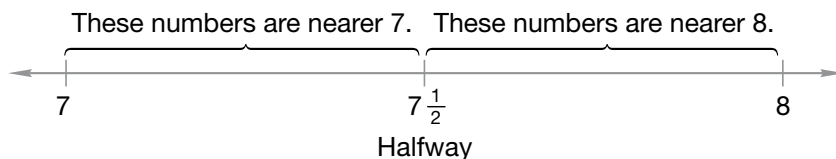
5. Narissa's toy chest is 4 feet wide, 2 feet deep, and 3 feet high. How many boxes that are 1-foot cubes could Narissa fit into her toy chest?



\_\_\_\_\_

## • Rounding Decimal Numbers to the Nearest Whole Number

- Compare the number after the decimal point to 5.



**Examples:**  $8.4 \rightarrow 8$  (because  $4 < 5$ )

$8.6 \rightarrow 9$  (because  $6 > 5$ )

- Round money amounts to the nearest dollar.

**Examples:** \$2.92 rounds up to \$3.00 because  $9 > 5$ .

\$2.35 rounds down to \$2.00 because  $3 < 5$ .

### **Practice:**

Round each money amount to the nearest dollar. Remember to write the dollar sign.

1. \$7.19  $\rightarrow$  \_\_\_\_\_      2. \$4.65  $\rightarrow$  \_\_\_\_\_      3. \$2.80  $\rightarrow$  \_\_\_\_\_

4. Estimate the sum of \$14.56 and \$5.41.

\_\_\_\_\_ + \_\_\_\_\_ = \_\_\_\_\_

Round each decimal number to the nearest whole number.

5. 3.67  $\rightarrow$  \_\_\_\_\_      6. 11.09  $\rightarrow$  \_\_\_\_\_      7. 6.48  $\rightarrow$  \_\_\_\_\_

8. Estimate the sum of 5.83 and 8.49.

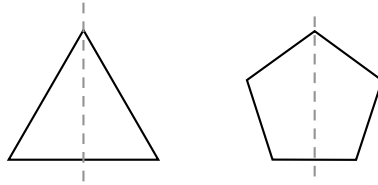
\_\_\_\_\_ + \_\_\_\_\_ = \_\_\_\_\_

9. Annalucia rode her bike 2 blocks in 73.73 seconds. Round her time to the nearest second. Remember to write the units.

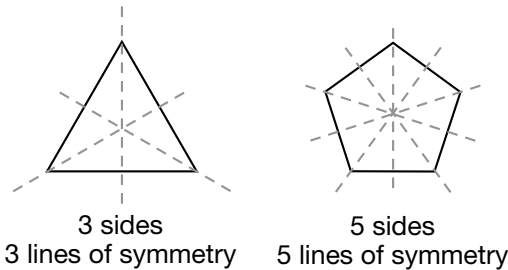
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• **Symmetry and Transformations**

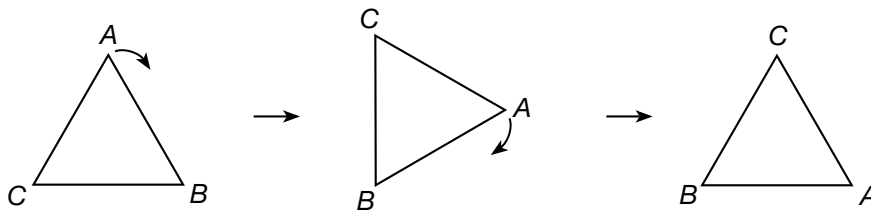
- A **line of symmetry** divides a figure into mirror images (**reflective symmetry**).



- Figures often have more than one line of symmetry. **Regular polygons** have as many lines of symmetry as they do sides.



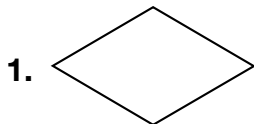
- Figures that look the same more than once during a full turn have **rotational symmetry**.



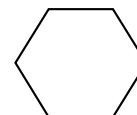
- Regular polygons have reflective symmetry and rotational symmetry.

**Practice:**

Find all the lines of symmetry in each figure.



4. A regular hexagon has how many lines of symmetry?



\_\_\_\_\_

5. Which of these letters has rotational symmetry? (Circle one).

**SUBTRACT**

**• Reading and Ordering Decimal Numbers**

- We can use bills and coins to represent place value. Each place in the chart below is one tenth of the value of the place to its left.

tens place	ones place	tenths place	hundredths place	thousandths place	ten- thousandths place
_____	_____	_____	_____	_____	_____
\$10 bills	\$1 bills	dimes	pennies	mills	

- To compare or order decimal numbers:

- |   |                          |
|---|--------------------------|
| 1. Line up the decimal points.  | 0.0475                   |
| 2. Compare the digits starting in the tenths places, and then in each place to the right. | 0.4500                   |
| 3. Arrange from least to greatest.  | 0.4570                   |
| 4. Remove any unnecessary zeros.  | 0.5000                   |
|   | 0.0475, 0.45, 0.457, 0.5 |

**Practice:**

Use words to name each number.

1. 7.823 \_\_\_\_\_

\_\_\_\_\_

2. 0.029 \_\_\_\_\_

\_\_\_\_\_

Round each decimal number to the nearest whole number.

3. 3.842 → \_\_\_\_\_      4. 9.18 → \_\_\_\_\_      5. 1.346 → \_\_\_\_\_

Compare.

6. 0.625 ○ 0.0625

7. 0.101 ○ 0.1010

8. Arrange in order from least to greatest.

0.103, 0.031, 0.1003, 0.3010

\_\_\_\_\_

### • Using Percent to Name Part of a Group

- 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. Find the fraction that names the part of the group.
  2. Change the fraction to a percent by multiplying by 100%.
  3. Check for reasonableness.

**Example:** If 9 of the 20 students read for an hour each night, what percent of the students read for an hour each night?

1. The fraction described is  $\frac{9}{20}$ .
2. Multiply by 100%.

$$\frac{9}{20} \times \frac{100\%}{1} = \frac{900\%}{20} = 45\%$$

3. The answer is reasonable because 9 out of 20 is a little less than  $\frac{1}{2}$  and 45% is a little less than 50%, which equals  $\frac{1}{2}$ .  
To make the division easier, cancel if possible.

$$\frac{9}{20} \times \frac{100\%}{1} = 45\%$$

### **Practice:**

Remember to write the percent symbol.

1. If 18 of the 30 yearbook members are teenagers, then what percent of the yearbook members are teenagers?

\_\_\_\_\_  $\frac{18}{30} \times \frac{100\%}{1} =$

2. If 12 out of 50 pieces of apple were eaten by David, then what percent of the pieces of apple did David eat?

\_\_\_\_\_  $\frac{12}{50} \times \frac{100\%}{1} =$

3. Sixteen out of 20 is what percent? \_\_\_\_\_

4. Eight out of 25 is what percent? \_\_\_\_\_

5. If one fourth of the people drank water at lunch, then what percent of the people drank water at lunch?

\_\_\_\_\_

## • Schedules

- A **schedule** is used to arrange events by time period. It shows when events are planned to happen. You might use a schedule to choose a bus route, or to organize your day.
- We often show a schedule in a table.

### **Practice:**

Spelling Bee Round 1	9:15 a.m.
Number Sense	11:00 a.m.
Science Investigations	11:45 a.m.
Lunch Break	12:45 p.m.
Spelling Bee Round 2	1:05 p.m.
Music Theory	2:00 p.m.

Theater Performance	2:40 p.m.
Math Computation	3:30 p.m.
Reading Comprehension	4:00 p.m.
Creative Writing	4:40 p.m.
History Bee	5:45 p.m.
Awards Ceremony	6:45 p.m.

1. Mrs. Brisbee's class is going to compete in an academic competition. Above are the times for each event. The school is 35 minutes from the competition. If Mrs. Brisbee's class wants to arrive 15 minutes before the first event, when should they leave the school? Remember to write a.m. or p.m.

\_\_\_\_\_

2. Five of Mrs. Brisbee's students will compete in the Theater Performance and Reading Comprehension events. How much time is scheduled between the start of the two events?

\_\_\_\_\_

Flight	Departure Time
Flt. 327 to New York	8:14 a.m.
Flt. 590 to Miami	9:23 a.m.
Flt. 226 to Chicago	10:02 a.m.
Flt. 1186 to Los Angeles	10:35 a.m.

Flight	Arrival Time
Flt. 1025 from Houston	8:21 a.m.
Flt. 612 from Seattle	8:58 a.m.
Flt. 138 from Baltimore	9:43 a.m.
Flt. 741 from Phoenix	10:29 a.m.

3. The table above shows arrival and departure times for flights into and out of Atlanta. Efraim is traveling from Houston to Chicago. His flight arrives from Houston at 8:21 a.m. What time does his plane depart for Chicago?

\_\_\_\_\_

4. Trevia is traveling from Baltimore to Los Angeles. How much time is scheduled between the arrival and departure times?

\_\_\_\_\_



## • Multiplying Decimal Numbers

- To multiply decimal numbers:

- Multiply the numbers.
- Count the digits to the right of the decimal points in the factors.
- Put the same number of digits to the right of the decimal point in the answer.

### Examples:

$$\begin{array}{r} \phantom{0.}^2 14 \\ \times \phantom{0.}^0 7 \\ \hline 0.98 \end{array} \quad \begin{array}{l} 2 \text{ digits} \\ 0 \text{ digits} \\ 2 \text{ digits} \end{array}$$

$$\begin{array}{r} \phantom{0.}^3 2 \\ \times \phantom{0.}^1 0.4 \\ \hline 12.8 \end{array} \quad \begin{array}{l} 0 \text{ digits} \\ 1 \text{ digit} \\ 1 \text{ digit} \end{array}$$

$$\begin{array}{r} \phantom{0.}^3 25 \\ \times \phantom{0.}^1 0.6 \\ \hline 0.150 \end{array} \quad \begin{array}{l} 2 \text{ digits} \\ 1 \text{ digit} \\ 3 \text{ digits} \end{array}$$

### Practice:

Multiply.

1.  $\begin{array}{r} 0.5 \\ \times 3 \\ \hline \end{array}$

2.  $\begin{array}{r} 7 \\ \times 0.4 \\ \hline \end{array}$

3.  $\begin{array}{r} 0.12 \\ \times 13 \\ \hline \end{array}$

4.  $\begin{array}{r} 1.9 \\ \times 0.2 \\ \hline \end{array}$

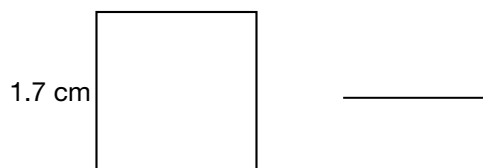
5.  $0.4 \times 2.18 = \underline{\hspace{2cm}}$

6.  $0.47 \times 1.1 = \underline{\hspace{2cm}}$

7.  $3.2 \times 0.2 = \underline{\hspace{2cm}}$

8.  $0.25 \times 1.5 = \underline{\hspace{2cm}}$

9. What is the area of this square?  
Remember to write the units.



### • Multiply Decimal Numbers: Using Zeros as Placeholders

- When we multiply decimal numbers, we count the digits to the right of the decimal points in the factors. We put the same number of digits to the right of the decimal point in the answer.
- Sometimes there are fewer digits in the answer than we need, so we fill the “empty” places to the left with zeros.

**Examples:**  $0.14 \times 0.7$

$$\begin{array}{r} \phantom{0.}^2 14 \\ \times 0.7 \\ \hline 0.098 \end{array}$$

We count a total of 3 digits to the right of the decimal points in the factors.

There are only 2 digits in the answer, so we use a zero to the left of the 9 as a placeholder before writing the decimal point.

#### **Practice:**

Multiply.

1.  $\begin{array}{r} 0.25 \\ \times 3 \\ \hline \end{array}$

2.  $\begin{array}{r} 0.06 \\ \times 0.4 \\ \hline \end{array}$

3.  $\begin{array}{r} 0.13 \\ \times 0.02 \\ \hline \end{array}$

4.  $\begin{array}{r} 1.9 \\ \times 0.08 \\ \hline \end{array}$

5.  $0.8 \times 0.12 = \underline{\hspace{2cm}}$

6.  $0.4 \times 0.02 = \underline{\hspace{2cm}}$

7.  $0.12 \times 0.04 = \underline{\hspace{2cm}}$

8.  $0.03 \times 0.02 = \underline{\hspace{2cm}}$

9. What is the area of this rectangle? Remember to write the units.  $\underline{\hspace{2cm}}$

