

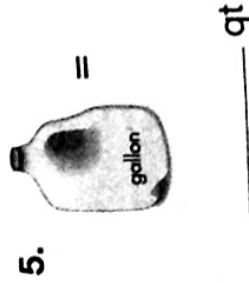
Name \_\_\_\_\_

# Customary Units of Capacity

Which unit(s) of capacity would be most reasonable to measure each?

1. barrel of oil \_\_\_\_\_
2. can of applesauce \_\_\_\_\_
3. individual carton of orange juice \_\_\_\_\_

Give the amount of liquid in each container. Use a fraction if necessary.



6. **Reasoning** Do 1 gallon and 8 pints represent the same amount?

- A No, 8 pints is 8 times the amount of 1 gallon.
- B No, 1 gallon is equal to 4 quarts.
- C Yes, 1 gallon is equal to 4 quarts, which is equal to 8 pints.
- D Yes, 8 pints is equal to 8 cups, which is equal to 1 gallon.

7. **Explain It** If you only needed 1 c of milk, what is your best choice at the grocery store—a quart container, a pint container, or a  $\frac{1}{2}$  gal container? Explain.

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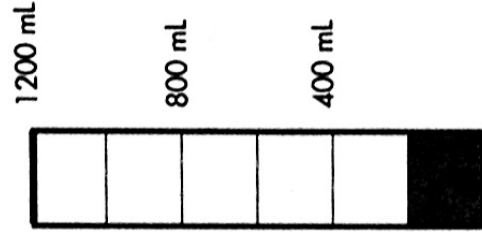
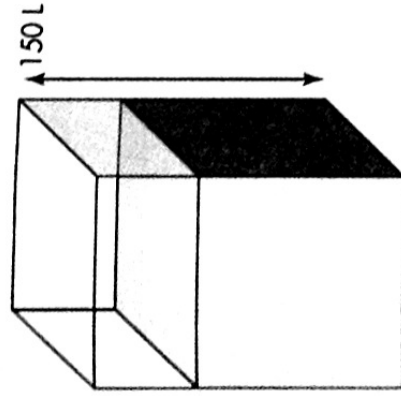
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# Metric Units of Capacity

**Estimation** Which unit of capacity would be most reasonable to measure each?

1. bottle of water: 1 mL or 1 L \_\_\_\_\_
2. bottle cap: 20 mL or 20 L \_\_\_\_\_
3. swimming pool: 80,000 mL or 80,000 L \_\_\_\_\_

Give the amount of liquid in each container.



6. **Reasonableness** In a science fair project, you test four different-sized containers of water: 1 L, 2 L, 4 L, and 5 L. Which of the following expresses these capacities in milliliters?

- A** 1 mL, 2 mL, 4 mL, 5 mL  
**B** 10 mL, 20 mL, 40 mL, 50 mL  
**C** 100 mL, 200 mL, 400 mL, 500 mL  
**D** 1,000 mL, 2,000 mL, 4,000 mL, 5,000 mL

7. **Explain It** Tell whether you would use multiplication or division to convert milliliters to liters. Explain your answer.

Name \_\_\_\_\_

## Units of Weight and Mass

Which customary unit of weight would be best to measure each weight?

1. newborn baby \_\_\_\_\_
2. earrings \_\_\_\_\_

Which metric unit of mass would be better to measure each mass?

3. necktie \_\_\_\_\_
4. 5 math textbooks \_\_\_\_\_

Which mass or weight is most reasonable for each?

5. laptop computer: 5 lb or 5 mg \_\_\_\_\_
6. dozen donuts: 1 oz or 1 kg \_\_\_\_\_

7. **Reasonableness** Which unit would you use to weigh a garbage truck?

- A ton      B kilogram      C pound      D milligram

8. **Explain It** Did you know that there is litter in outer space? Humans exploring space have left behind bags of trash, bolts, gloves, and pieces of satellites. Suppose there are about 4,000,000 lb of litter in orbit around Earth. About how many tons of space litter is this? Explain how you found your answer.

Name \_\_\_\_\_

Practice

**14-4**

## Converting Customary Units

In 1 through 9, convert each measurement. You may need to convert more than once.

- 3,520 yd = \_\_\_\_\_ mi    2. 10 ft 5 in. = \_\_\_\_\_ in.    3. 3 T = \_\_\_\_\_ oz
- 4 gal = \_\_\_\_\_ c    5. 2 gal = \_\_\_\_\_ fl oz    6. 6 yd 2 ft = \_\_\_\_\_ in.
- 6 qt 1 pt = \_\_\_\_\_ pt    8. 40 qt = \_\_\_\_\_ gal    9. 48 ft = \_\_\_\_\_ yd

10. Jenny bought a gallon of orange juice. The recipe for punch calls for 2 quarts of juice. How many quarts will she have left over to drink at breakfast?
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11. **Algebra** Laura has a roll of ribbon. There are 20 yards of ribbon on the roll. What equation can Laura use to find the number of inches of ribbon on the roll?
- 

12. Ramona drives a truck weighing 1 ton. She picks up 3 cows weighing 3,000 pounds total. How much do the truck and the cows weigh together?

- A 50 lb
- B 500 lb
- C 5,000 lb
- D 50,000 lb

13. **Explain It** If you want to convert pounds to ounces, do you multiply or divide?
- 
-

# Converting Metric Units

In 1 through 6, convert each measurement.

1. 3,000 mm = \_\_\_\_\_ m

2. 8 km = \_\_\_\_\_ m

3. 6 m = \_\_\_\_\_ cm

4. 9.8 kg = \_\_\_\_\_ g

5. 20,000 mg = \_\_\_\_\_ g

6. 11,000 mL = \_\_\_\_\_ L

In 7 through 12, compare the measurements.

Use  $<$ ,  $>$ , or  $=$  for each  $\bigcirc$ .

7. 4,000 g  $\bigcirc$  5 kg

8. 0.72 L  $\bigcirc$  572 mL

9. 5.12 m  $\bigcirc$  512 cm

10. 8 kg  $\bigcirc$  5,000 g

11. 44 L  $\bigcirc$  44,000 mL

12. 200 m  $\bigcirc$  20,000 mm

13. A watering can holds 4.2 liters. If a small cactus requires 310 mL of water once every 3 weeks, how many of the same cactus plant can be watered at once without refilling the watering can?
- 
- 

14. **Critical Thinking** How do you convert kilometers to meters?
- 
- 

15. Jeremy's apartment building is 15 meters tall. How many centimeters is this?

**A** 1.5 cm      **B** 50 cm      **C** 1,500 cm      **D** 15,000 cm

16. **Explain It** Explain how to convert 24 kilograms to grams.
- 
- 
-

Name \_\_\_\_\_

Practice

14-6

# Elapsed Time

Find each elapsed time.

1. 9:59 P.M. to 10:45 P.M. \_\_\_\_\_

2. 1:45 P.M. to 5:38 P.M. \_\_\_\_\_



A.M.



A.M.



P.M.



P.M.

\_\_\_\_\_

Find the end time using the given elapsed time.

5. Start: 3:46 P.M. Elapsed: 2 h 20 min \_\_\_\_\_

6. Add. 
$$\begin{array}{r} 2 \text{ h } 45 \text{ min} \\ + 3 \text{ h } 58 \text{ min} \\ \hline \end{array}$$

7. Add. 
$$\begin{array}{r} 6 \text{ h } 47 \text{ min} \\ + 5 \text{ h } 28 \text{ min} \\ \hline \end{array}$$

The White House Visitor Center is open from 7:30 A.M. until 4:00 P.M.

8. Tara and Miguel got to the Visitor Center when it opened, and spent 1 hour and 20 minutes there. At what time did they leave? \_\_\_\_\_

9. Jennifer left the Visitor Center at 3:30 P.M. after spending 40 minutes there. At what time did she arrive? \_\_\_\_\_

10. A football game lasted 2 hours and 37 minutes. It finished at 4:22 P.M. When did it start?

A 1:45 p.m      B 1:55 p.m      C 2:45 p.m      D 2:50 p.m

11. **Explain It** What is 1 hour and 35 minutes before 4:05 p.m? Explain how you solved this problem.

## Elapsed Time in Other Units

Find the elapsed time.

1. 9:50 P.M. to 4:00 A.M.

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2. 5:15 A.M. to 2:15 P.M.

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3. 10:00 P.M. to 4:45 A.M.

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4. 6:30 P.M. to 5:10 A.M.

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Find the end or start time.

5. Start time: 8:15 A.M.

Elapsed time: 30 h 20 min.

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6. End time: 10:30 P.M.  
Elapsed time: 13 h 30 min.

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7. **Number Sense** Krishan wakes up at 7:30 A.M. every morning. He spends 30 minutes getting ready, 6 hours at school, and 2 hours volunteering. Then he takes the bus for 15 minutes and arrives at his house. What time does he arrive at his house?

A 2:00 P.M.

B 3:45 P.M.

C 4:15 P.M.

D 5:45 P.M.

8. **Explain It** Emre left for a trip Sunday night at 10:00 P.M. He returned home Tuesday morning at 6:00 A.M. How many hours was he away on his trip? Explain how you found your answer.

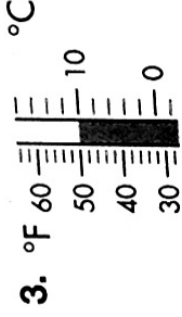
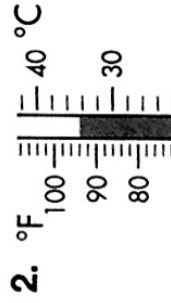
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# Temperature Change

Write each temperature in Celsius and Fahrenheit.



Find each change in temperature.

4.  $34^{\circ}\text{F}$  to  $67^{\circ}\text{F}$

\_\_\_\_\_

5.  $12^{\circ}\text{C}$  to  $7^{\circ}\text{C}$

\_\_\_\_\_

6. **Number Sense** Which is a smaller increase in temperature: a  $5^{\circ}\text{F}$  increase or a  $5^{\circ}\text{C}$  increase?

\_\_\_\_\_

Information about the record high temperatures in four states is shown.

7. What is the difference between the record high temperature in Florida and the record high temperature in Alaska in  $^{\circ}\text{C}$ ?

\_\_\_\_\_

**Record High Temperature**

State	$^{\circ}\text{F}$	$^{\circ}\text{C}$
Alaska	100	38
Florida	109	43
Michigan	112	44
Hawaii	100	38

8. What is the difference between the record high temperature in Michigan and the record high temperature in Florida in  $^{\circ}\text{F}$ ?

\_\_\_\_\_

9. What is the difference between  $-6^{\circ}\text{C}$  and  $12^{\circ}\text{C}$ ?

**A**  $6^{\circ}\text{C}$

**B**  $12^{\circ}\text{C}$

**C**  $18^{\circ}\text{C}$

**D**  $19^{\circ}\text{C}$

10. **Explain It** Which is warmer,  $1^{\circ}\text{F}$  or  $1^{\circ}\text{C}$ ? Explain how you found this answer.

\_\_\_\_\_



Name \_\_\_\_\_

## Problem Solving: Make a Table

Make a table to solve the problems.

1. The temperature in the room was  $55^{\circ}\text{F}$  at 8:00 A.M. Ed turned the heat on, and the temperature rose  $4^{\circ}\text{F}$  every 30 minutes. What was the temperature of the room at 11:30 A.M.?
- 

2. Charles can type 72 words per minute. He needs to type a paper with 432 words. How many minutes will it take Charles to type the paper?
- 

3. **Number Sense** Yugita wakes up at 5:00 A.M. on Monday. Each day after that, she wakes up 17 minutes later. What time will she wake up on Friday?

- A 5:17 A.M.
- B 5:51 A.M.
- C 6:08 A.M.
- D 6:25 A.M.

4. **Explain It** Train A leaves from New York at 10:15 A.M. and arrives in New Haven at 12:23 P.M. Train B takes 2 hours to go from New York to New Haven, but takes a 20-minute rest break in the middle of the trip. Which train is faster? Explain.
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