

NAME \_\_\_\_\_

Module 12 Attributes and Tools  
Lesson 1 Measurement Systems

# Independent Practice

## 12.1

Choose the most reasonable customary and metric unit of *length* to measure each item.

1. A postage stamp

**Inches, millimeters, or centimeters**

2. The distance a car travels in two hours

**Miles or kilometers**

3. A hockey stick

**Feet, yards, or meters**

4. The height of a coffee mug

**Inches or centimeters**

Choose the most reasonable customary and metric unit of *capacity* to measure each item.

5. A bottle of eye drops

**Fluid ounces or milliliters**

6. A glass of water

**Fluid ounces, cups, or milliliters**

7. A bathtub

**Gallons or liters**

8. A car's gas tank

**Gallons or liters**

Choose the most reasonable customary unit of weight and metric unit of *mass* to measure each item.

9. A parakeet

**Ounces or grams**

10. A semi truck

**Tons or kilograms**

11. A facial tissue

**Ounces or milligrams**

12. A watermelon

**Pounds or kilograms**

Match each metric prefix to its power of ten equivalent.

- |                  |          |          |
|------------------|----------|----------|
| _____ 13. deci-  | <b>B</b> | A. 10    |
| _____ 14. kilo-  | <b>C</b> | B. 0.1   |
| _____ 15. milli- | <b>D</b> | C. 1,000 |
| _____ 16. deka-  | <b>A</b> | D. 0.001 |
| _____ 17. centi- | <b>F</b> | E. 100   |
| _____ 18. hecto- | <b>E</b> | F. 0.01  |

Fill in the blank.

- |                        |                       |
|------------------------|-----------------------|
| 19. 1 _____ = 2,000 lb | 20. 12 in. = _____ ft |
| <b>T</b>               | <b>1</b>              |
| 21. _____ ft = 1 yd    | 22. 1 c = _____ fl oz |
| <b>3</b>               | <b>8</b>              |

Solve.

23. If the length of a room is one decameter long, how many meters long is it?

**The length of the room is 10 meters.**

24. A decigram is what fraction of a gram?

**A decigram is  $\frac{1}{10}$  of a gram.**

25. A bottle contains one liter of juice. How many milliliters of juice does it contain?

**The bottle contains 1,000 milliliters of juice.**

NAME \_\_\_\_\_

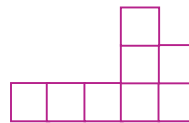
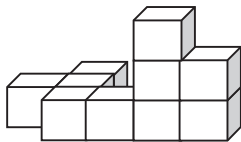
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### Journal

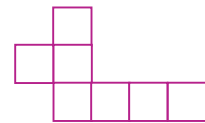
1. Explain the difference between weight and mass.
2. Can you use a ruler to measure the length of a street? Is a ruler the best tool to use? Explain why or why not. If not, what other measurement tool or tools would be better?
3. Charlie understands the units of metric length. Explain why it would be easy for him to learn the units of metric mass. Use examples in your explanation.

### Cumulative Review

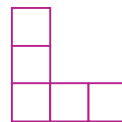
1. Draw the front, top, right, and left side views of the figure below. Assume there are no hidden blocks.



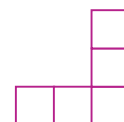
Front:



Top:

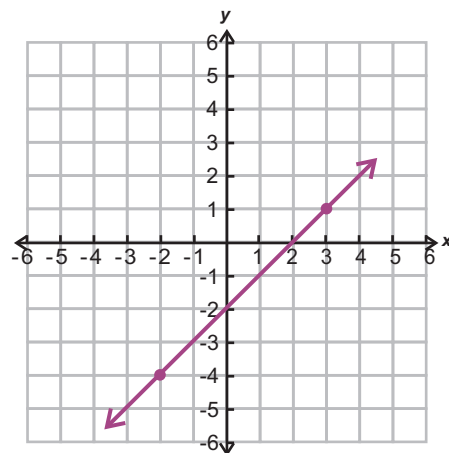


Right:



Left:

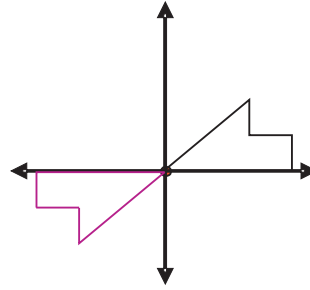
2. Graph the line that contains  $(-2, -4)$  and  $(3, 1)$ .



Slope = 1

3. Find the slope of the line in Problem 2.

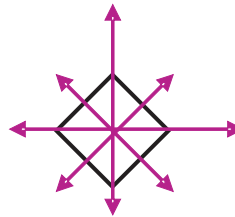
4. Rotate the figure  $180^\circ$ . Use the origin as the center of rotation.



5. Point  $A(3, 5)$  is translated two units right and four units down. What are the coordinates of  $A'$ ?

**(5, 1)**

6. Draw all the lines of symmetry.



### Possible Journal Answers

1. Weight is the heaviness of an object. It is the gravitational force required to support an object against the pull of gravity. Therefore, the weight of an object can change depending on what planet it is on. Mass is the amount of matter in an object, independent of any external force. It is the same on every planet.
2. Yes: A ruler can be used to measure the length of a street. However, a ruler is not the best tool to use because a ruler is only capable of measuring up to 12 inches at a time, and streets are much greater in length than 12 inches. It would take a long time to measure a street using a ruler, and the likelihood of error would increase. For a long street, an odometer would be a better choice. For a shorter street, a tape measure would be the appropriate tool.
3. Charlie would easily learn the units of metric mass because the prefixes for metric length and metric mass (and even metric capacity) are the same. The basic unit of length is the meter, and the basic unit of mass is the gram. The prefixes of the other units tell how much greater or smaller it is. For instance, a kilometer is equivalent to 1,000 meters, so a kilogram is equivalent to 1,000 grams. A centimeter is one-hundredth of a meter, and a centigram is one-hundredth of a gram.