

1

Purposeful Design

MATHEMATICS

THIRD EDITION

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Chapter 6

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LM 6.1A Chapter 6 Parent Letter



Dear Parents,

Chapter 6 begins the study of measurement. Children will learn to measure length, capacity, temperature, and weight, and they will use these measurement skills throughout their lives, not just in math or science classes.

In class, your child will measure the length, weight, and capacity of many different objects. You can encourage your child to measure everyday items at home. Start by

measuring your child's height. Incorporate measuring into daily activities, such as cooking and baking. Or, choose a craft project that would allow your child to practice measuring items in inches or centimeters. Listed below are some other ideas for practicing measurement at home. Your child will benefit from the extra practice you provide with measurement.

THINGS TO MEASURE

shoes	pillow	bottle	couch
beds	book	plate	television
toys	brush	lamp	pet
self	comb	washcloth	
door	toothbrush	table	

THINGS TO COMPARE

Which holds more?

refrigerator or oven
cup or bucket
tub or pool
empty gallon container or empty half-gallon container



LM 6.1B Project: Measuring Centers Description

The following project can be used anytime during the chapter as an additional activity or an informal assessment.

- Set up a measuring center in the classroom. Each week, change the center so that students have the opportunity to measure a variety of things using different units of measurement. Assign students to a group of 3 to 5 students, depending on the space and quantity of materials available for a center. These groups will stay in place throughout the project. Have groups rotate to different centers during the week so that each student will have a chance to work at every center.
- Each week, have students measure objects in different ways. Stock the centers with a variety of things to measure, measuring tools, and paper for students to record their measurements. See the chart below for ideas for each week's measuring center.

- Ideas for centers:

	customary length	customary capacity	metric length	metric capacity
week one	inch rulers, books, crayons, trains of connecting cubes		centimeter rulers, colored markers, erasers, old keys	
week two		customary measuring cups; bowls; clean, empty pint and quart milk cartons; beans, rice, or lentils		metric measuring cup; clean, empty one-liter or two-liter soda bottles; funnels; sand; rice
week three	yardsticks, tape measures, long lengths of yarn or string		metersticks, long lengths of ribbon, classroom tables	

- Have students complete **LM 6.1C Project: Measuring Centers** and use the rubric as a checklist for self-assessment.
- Use the teacher portion of the rubric to assess student work and then send it home.



Name _____

LM 6.1C Project: Measuring Centers

Each week, you and your group will visit a measurement center. When you are in the center, your job is to measure and record the size or capacity of the objects in the center. Be sure to do the following:

- Measure each object correctly. Be sure to measure length with your ruler by placing the object at 0, not at 1.
- Write the measurement on the paper that your teacher provides. Put your name on the paper.
- Measure capacity using the lines on the measuring cups. Write the capacity on the paper that your teacher gives you.
- Share the measuring tools and take time to clean up any spills. Compare your measurements with others in your group. Are they the same?

Use the following as a checklist for your project. When you have checked the boxes in the first column, you are finished!

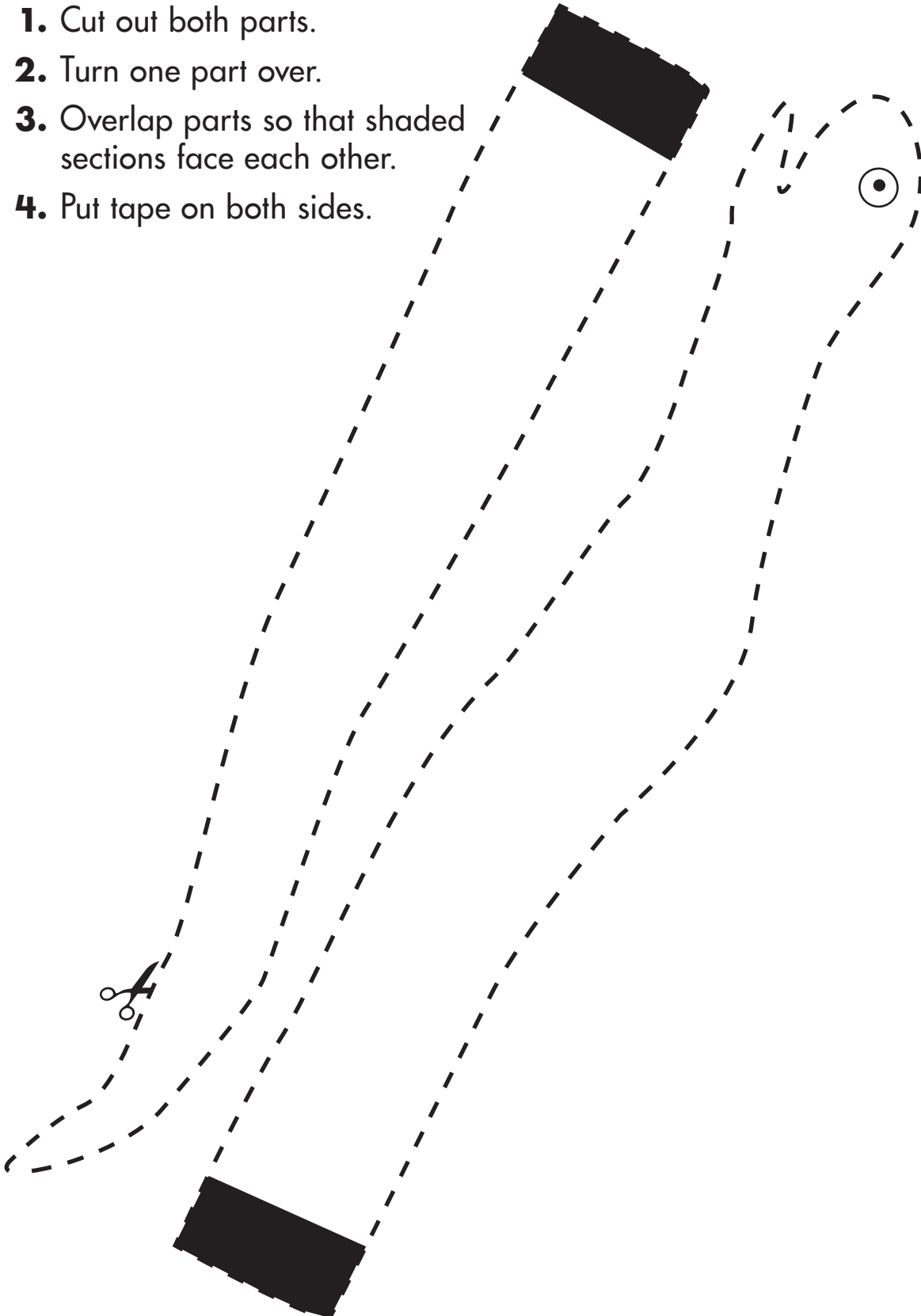
student		teacher
☐	I carefully measured all the items in the center.	☐
☐	I wrote the measurements on the paper provided.	☐
☐	I shared the measurement tools with others.	☐
☐	I cleaned up any spills and took care of the tools.	☐
	Total	☐

Scoring Guide: 4 Excellent 3 Well done 2 Good 1 Needs work
Teacher Comments:



LM 6.1D Folding Snake

1. Cut out both parts.
2. Turn one part over.
3. Overlap parts so that shaded sections face each other.
4. Put tape on both sides.





Name _____

LM 6.1E Estimates

Estimate. Measure these real-life objects with the snake.

1.



Estimate: _____ snakes

Actual: _____ snakes

4.



Estimate: _____ snakes

Actual: _____ snakes

2.



Estimate: _____ snakes

Actual: _____ snakes

5.



Estimate: _____ snakes

Actual: _____ snakes

3.



Estimate: _____ snakes

Actual: _____ snakes

6.



Estimate: _____ snakes

Actual: _____ snakes

Name _____

LM 6.1F Estimates

Fold the snake. Estimate and then measure.

7.



Estimate: _____ snakes

Actual: _____ snakes

10.



Estimate: _____ snakes

Actual: _____ snakes

8.



Estimate: _____ snakes

Actual: _____ snakes

11.



Estimate: _____ snakes

Actual: _____ snakes

9.



Estimate: _____ snakes

Actual: _____ snakes

12.



Estimate: _____ snakes

Actual: _____ snakes

13. Tell how the number of snakes changed after you folded it in half.



LM 6.1F Estimates

Answers will vary.

Fold the snake. Estimate and then measure.

7.



Estimate: _____ snakes

Actual: _____ snakes

10.



Estimate: _____ snakes

Actual: _____ snakes

8.



Estimate: _____ snakes

Actual: _____ snakes

11.



Estimate: _____ snakes

Actual: _____ snakes

9.



Estimate: _____ snakes

Actual: _____ snakes

12.



Estimate: _____ snakes

Actual: _____ snakes

13. Tell how the number of snakes changed after you folded it in half.

Answers will vary but should include that each number is more or double when the snake is folded in half.

Name _____

LM 6.2A Measurement Practice

An inchworm is not a worm at all. It is a caterpillar that moves as if it is measuring something.

Cut out the inchworm strip at the bottom of the page. Use it to measure the objects.



_____ inches



_____ inches



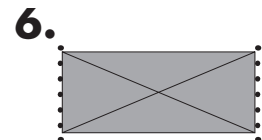
_____ inches



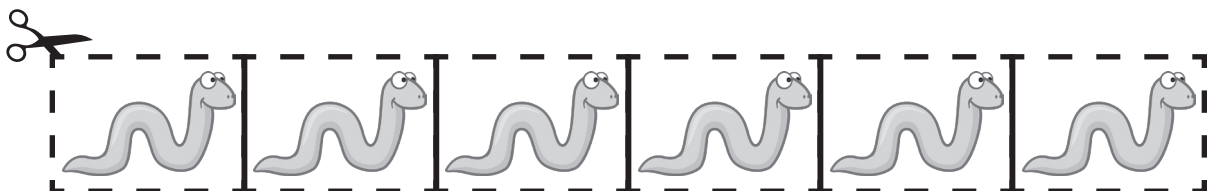
_____ inches



_____ inches



_____ inches



**LM 6.2A Measurement Practice**

An inchworm is not a worm at all. It is a caterpillar that moves as if it is measuring something.

Cut out the inchworm strip at the bottom of the page. Use it to measure the objects.



2 inches



3 inches



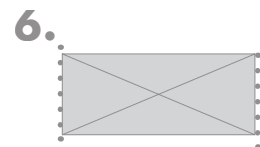
4 inches



2 inches



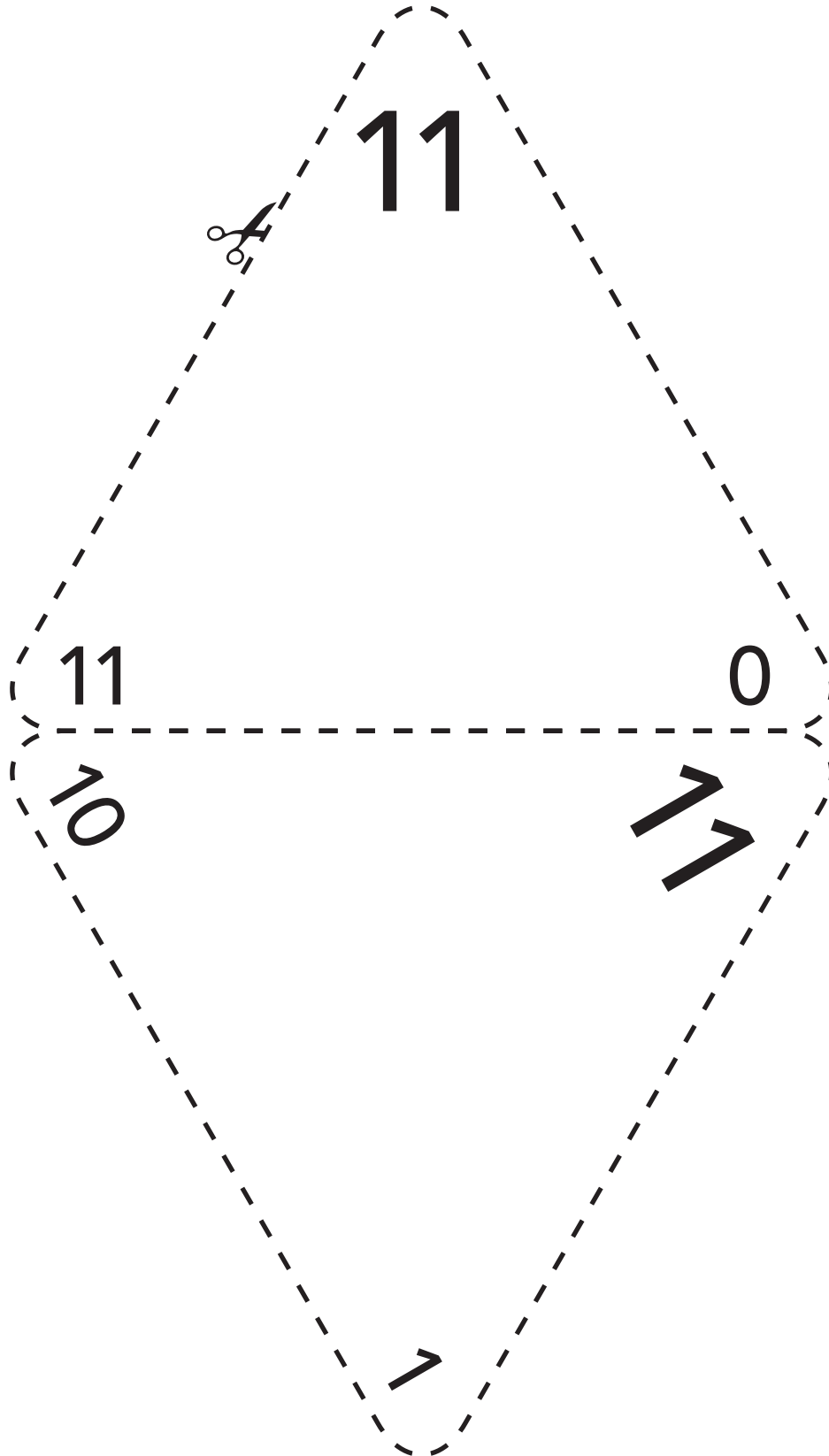
5 inches



1 inches

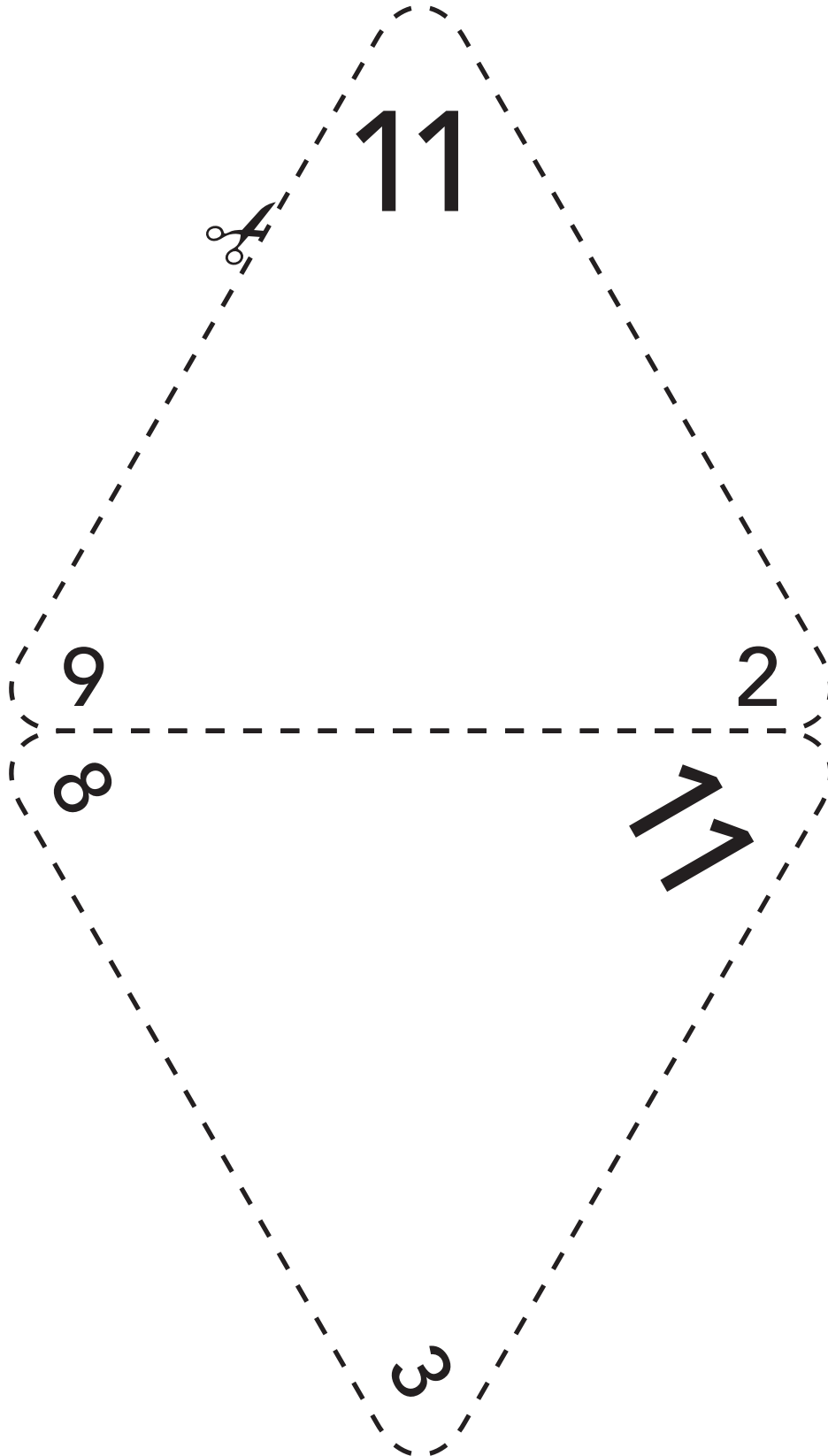


LM 6.2B Flash Cards: Fact Families



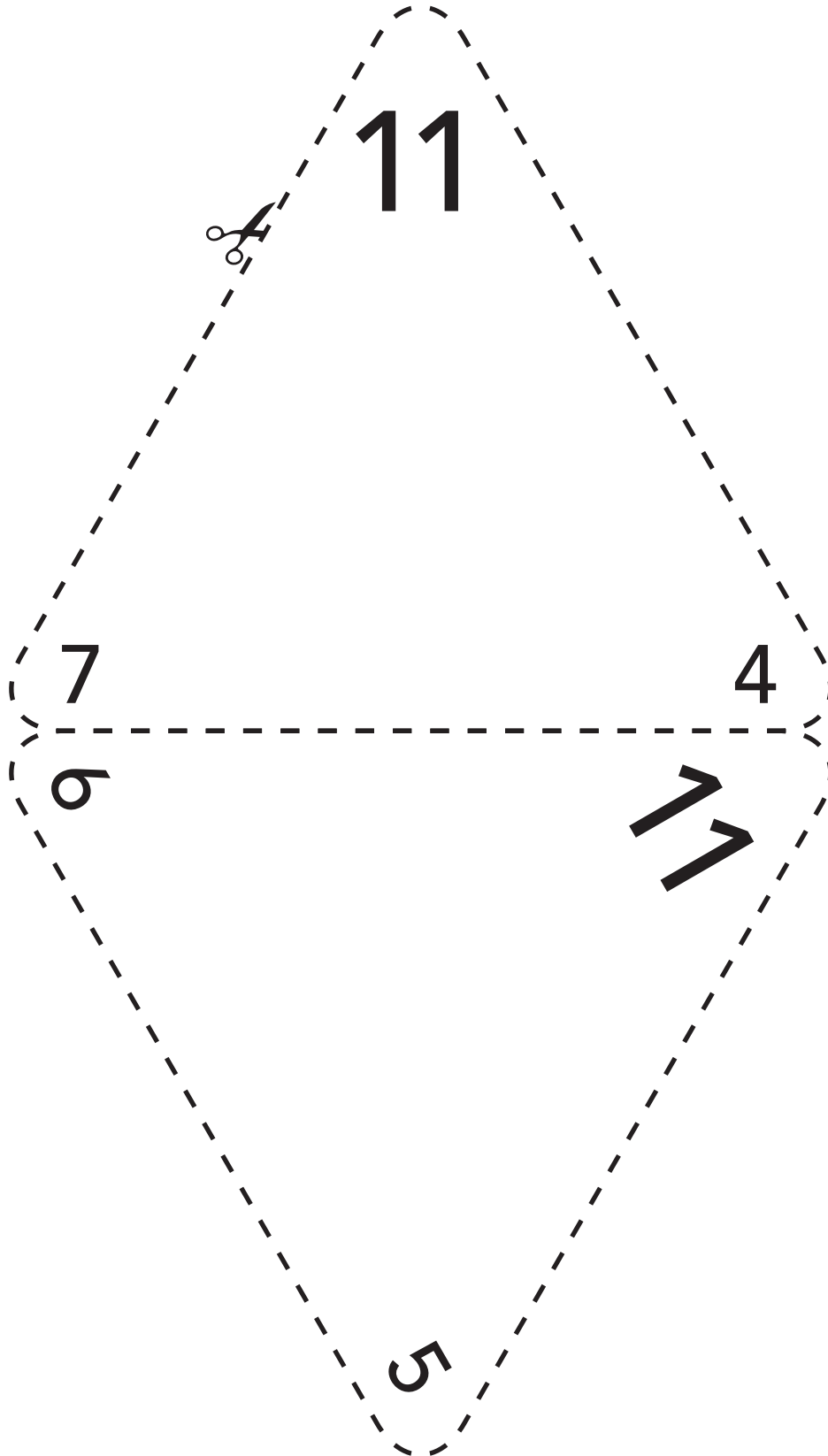


LM 6.2C Flash Cards: Fact Families



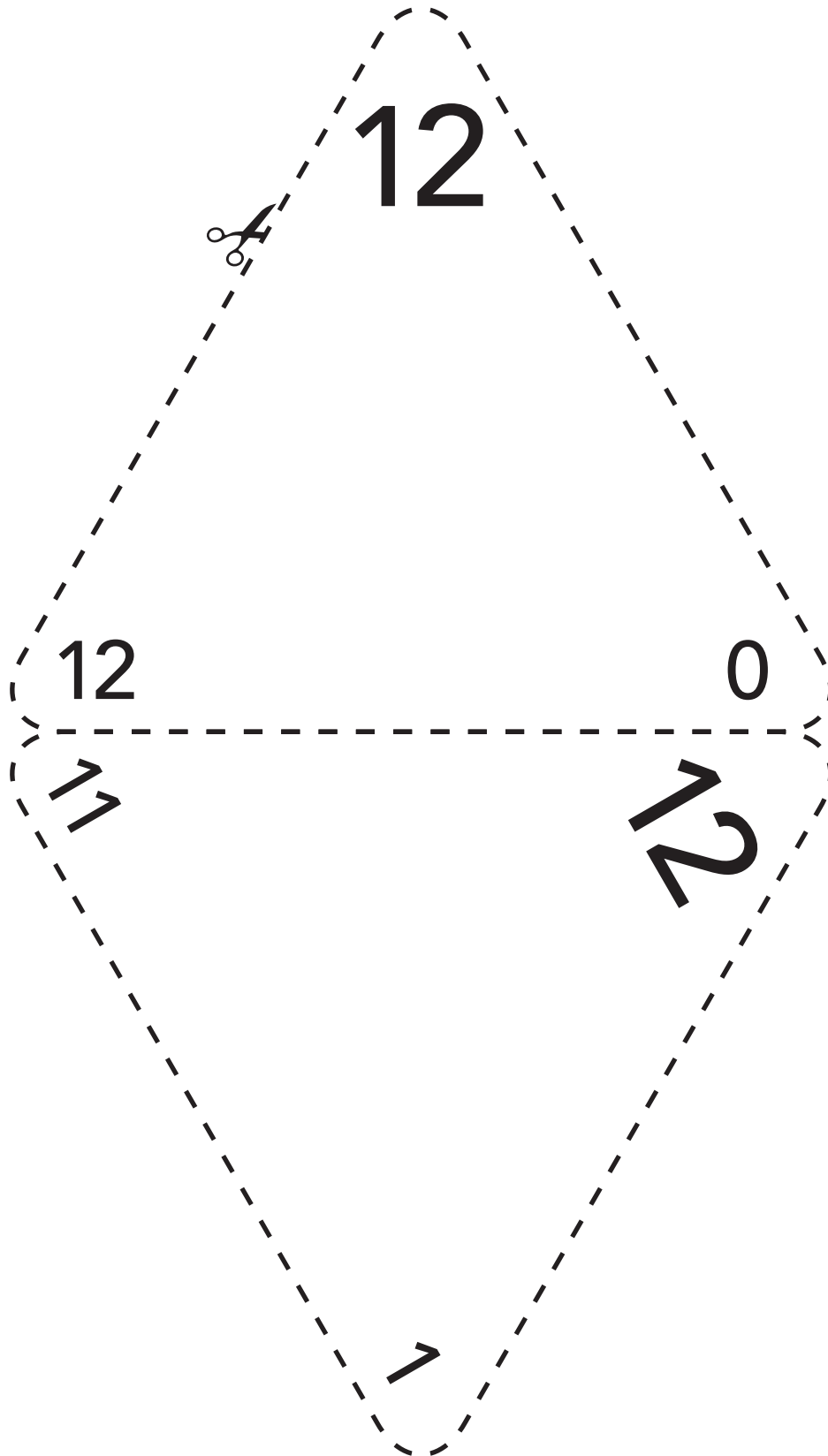


LM 6.2D Flash Cards: Fact Families



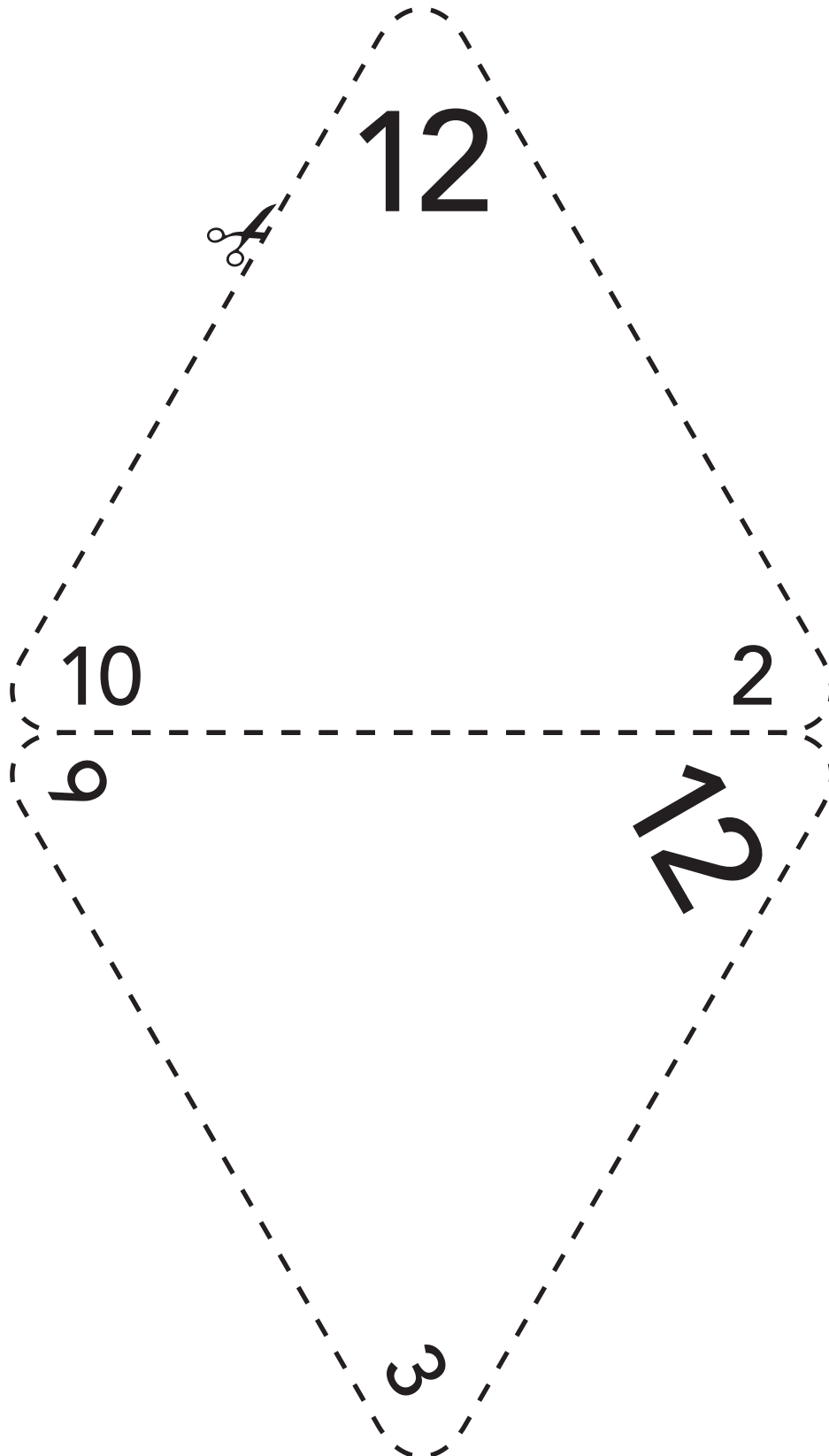


LM 6.2E Flash Cards: Fact Families



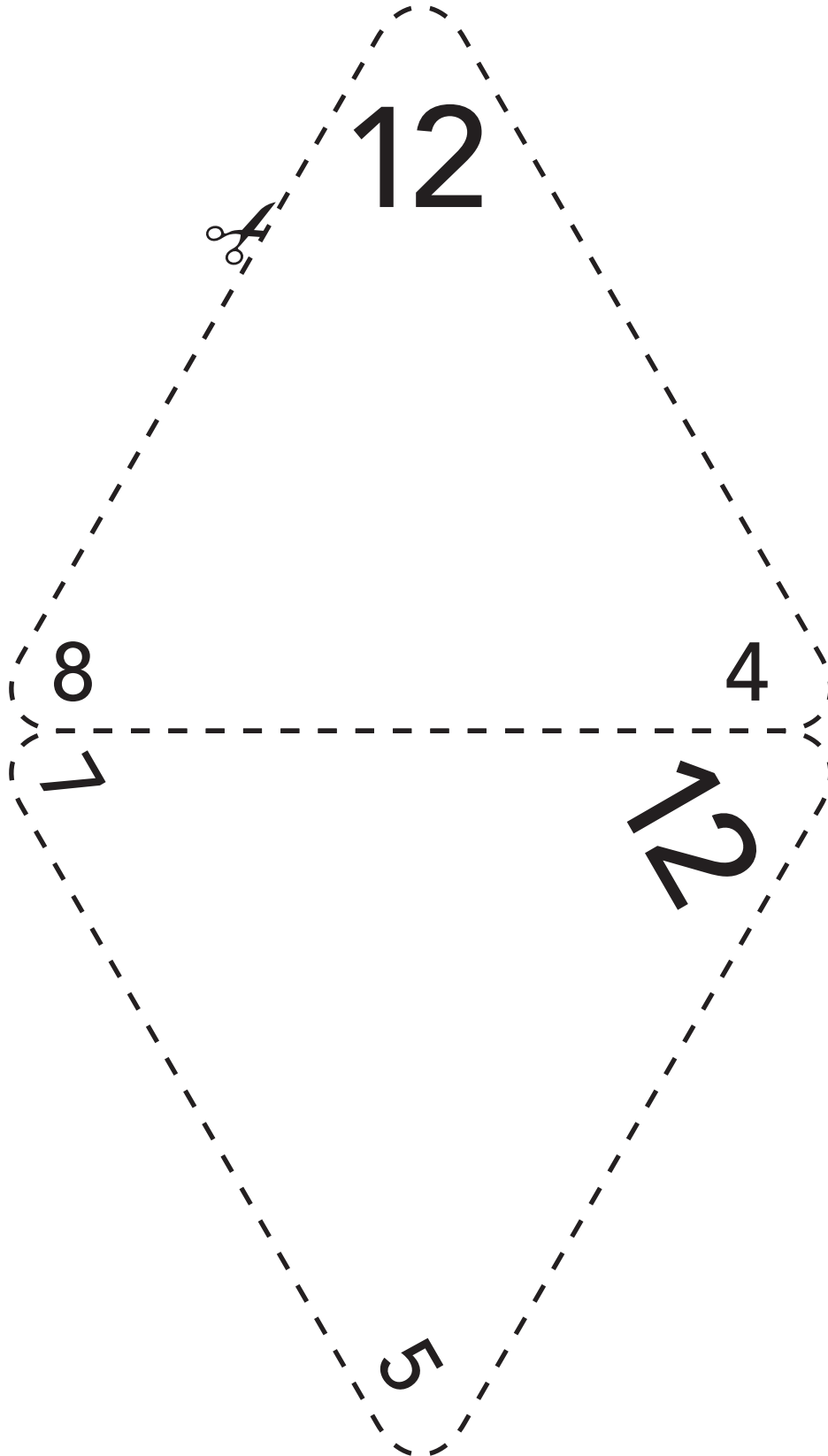


LM 6.2F Flash Cards: Fact Families



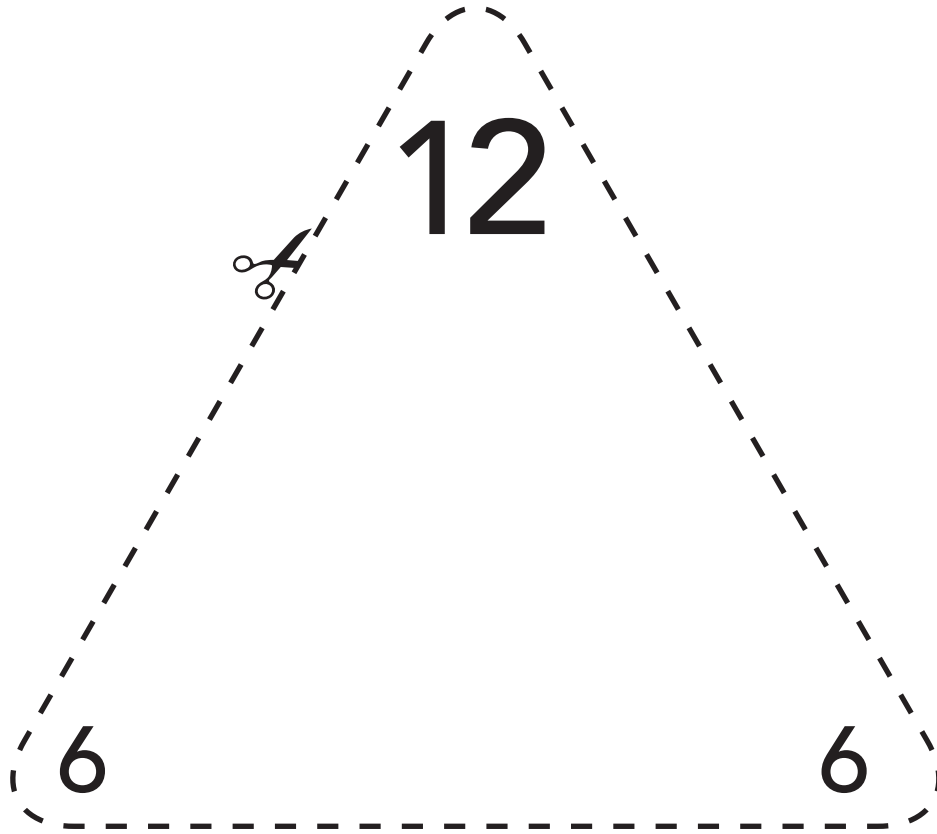


LM 6.2G Flash Cards: Fact Families





LM 6.2H Flash Cards: Fact Families

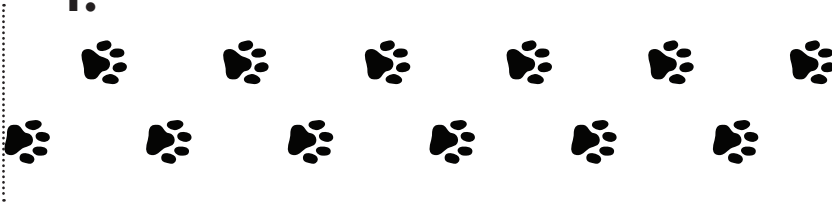


Name _____

LM 6.3A Centimeter Cats

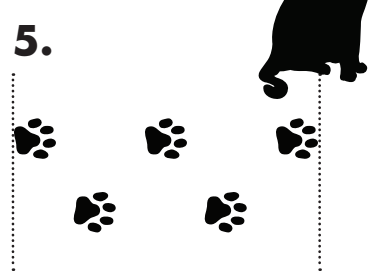
Measure the footprints in centimeters. Use a ruler or the centimeter ruler at the bottom of the page.

1.



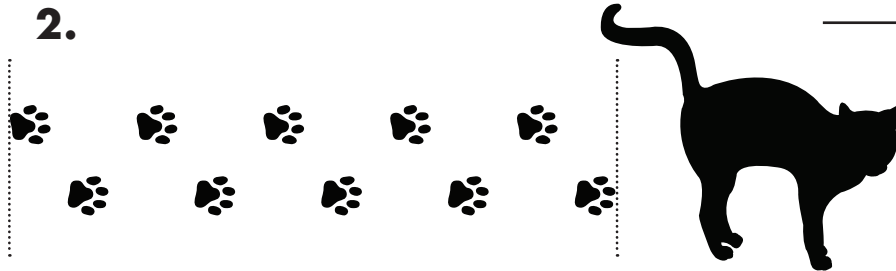
_____ centimeters

5.



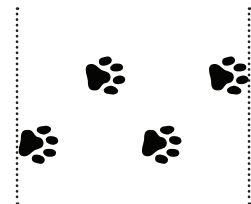
_____ centimeters

2.



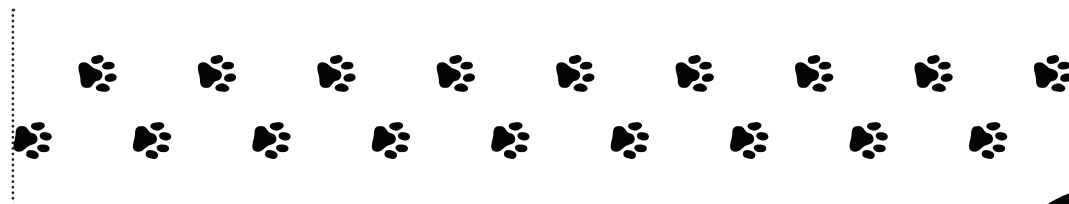
_____ centimeters

6.



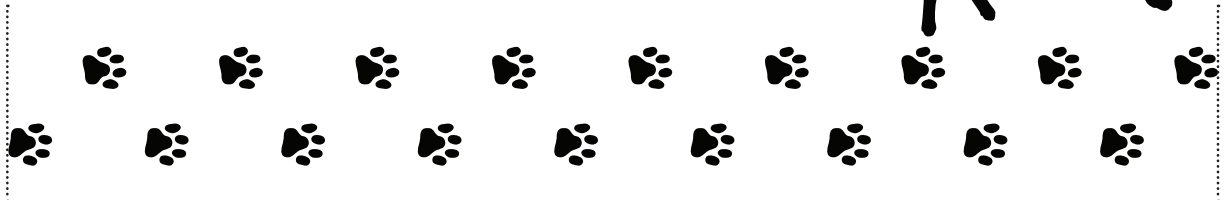
_____ centimeters

3.

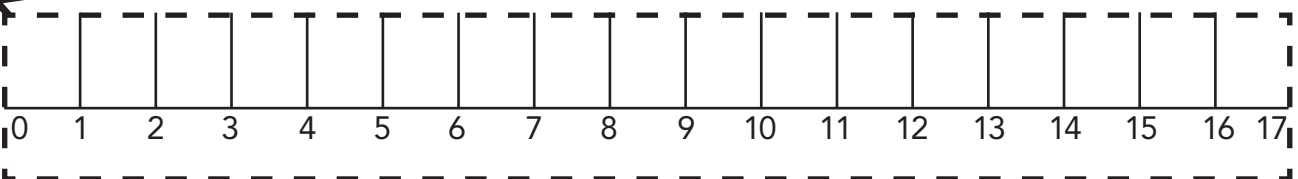


_____ centimeters

4.



_____ centimeters





LM 6.3A Centimeter Cats

Measure the footprints in centimeters. Use a ruler or the centimeter ruler at the bottom of the page.



1.



11 centimeters

5.

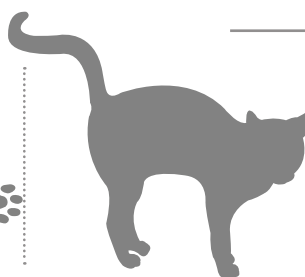


4 centimeters

2.



8 centimeters



6.

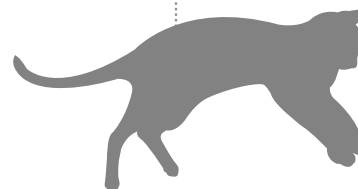


3 centimeters

3.



14 centimeters



4.

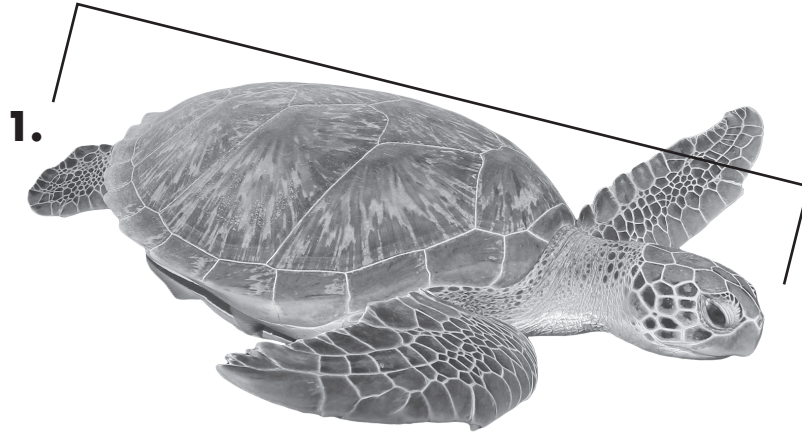


16 centimeters

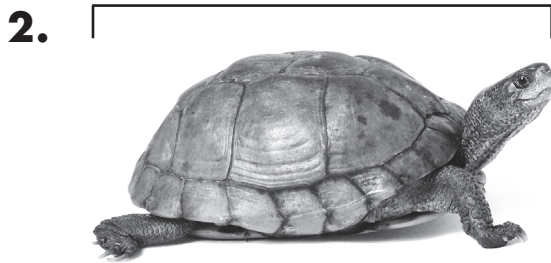
Name _____

LM 6.3B Centimeter Turtles

Measure the length of each turtle with a centimeter ruler.



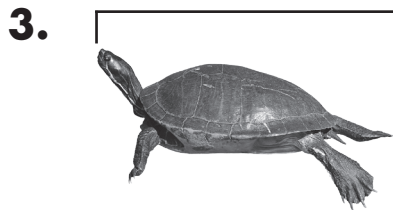
_____ centimeters



_____ centimeters



_____ centimeters



_____ centimeters



_____ centimeters

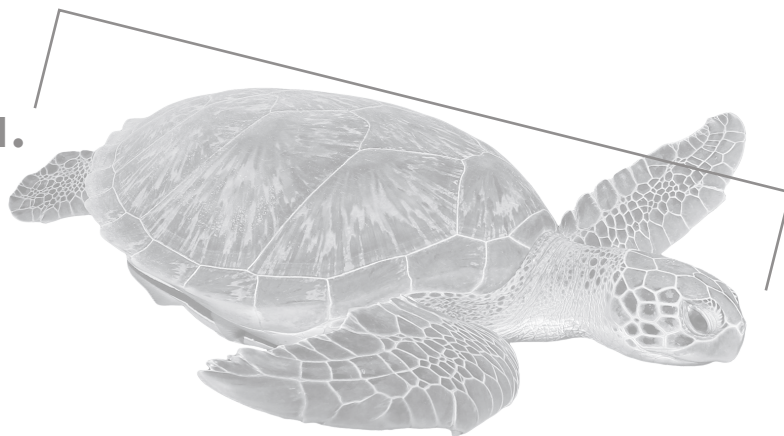
6. Draw and measure your own turtle.



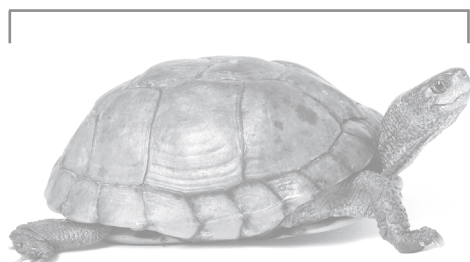
My turtle is _____
centimeters long.

**LM 6.3B Centimeter Turtles**

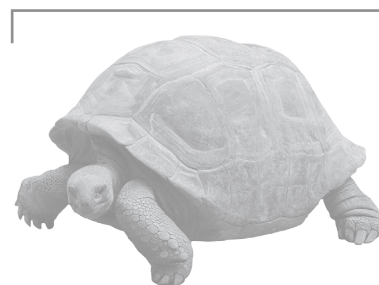
Measure the length of each turtle with a centimeter ruler.

1.

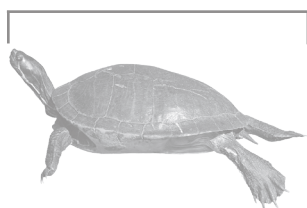
10 centimeters

2.

6 centimeters

4.

5 centimeters

3.

4 centimeters

5.

2 centimeters

6. Draw and measure your own turtle.

Drawings will vary.

Answers will vary.

My turtle is _____
centimeters long.



LM 6.4A Just Right

Circle the unit that your group is using.

inches

centimeters

Find one paper or sticky note for each number shown in the rectangles. Tape the paper in the correct rectangle.

1	6
2	7
3	8
4	9
5	10

Name _____

LM 6.5A Customary Measurement



ruler

12 inches = 1 foot



yardstick

3 feet = 1 yard

Circle the tool you would use to measure the real-life object.

1.



ruler yardstick

4.



ruler yardstick

2.



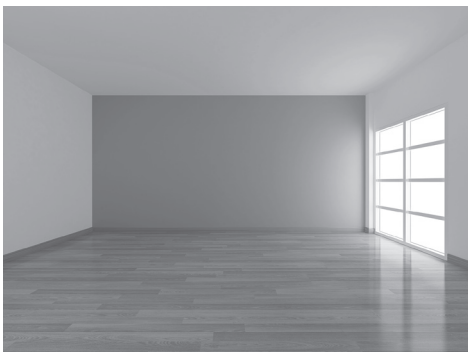
ruler yardstick

5.



ruler yardstick

3.



ruler yardstick

6.



ruler yardstick



LM 6.5A Customary Measurement



ruler

12 inches = 1 foot



yardstick

3 feet = 1 yard

Circle the tool you would use to measure the real-life object.

1.



ruler

yardstick

4.



ruler

yardstick

2.



ruler

yardstick

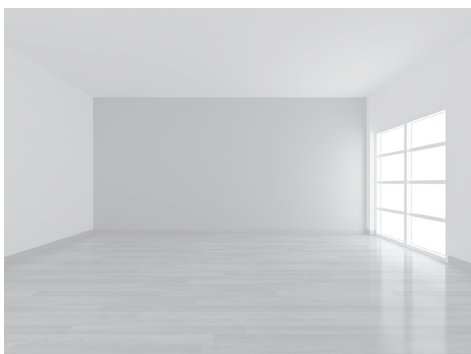
5.



ruler

yardstick

3.



ruler

yardstick

6.



ruler

yardstick

Name _____

LM 6.5B Customary Measurement

Would the length of the real object be closer to 1 inch, 1 foot, or 1 yard? Circle your answer.

7.



1 inch 1 foot 1 yard

12.



1 inch 1 foot 1 yard

8.



1 inch 1 foot 1 yard

13.



1 inch 1 foot 1 yard

9.



1 inch 1 foot 1 yard

14.



1 inch 1 foot 1 yard

10.



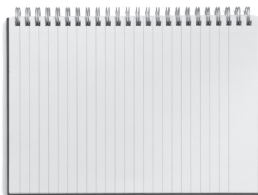
1 inch 1 foot 1 yard

15.



1 inch 1 foot 1 yard

11.



1 inch 1 foot 1 yard

16.



1 inch 1 foot 1 yard

**LM 6.5B Customary Measurement**

Would the length of the real object be closer to 1 inch, 1 foot, or 1 yard? Circle your answer.

7.

1 inch **1 foot** 1 yard

12.

**1 inch** 1 foot 1 yard

8.

1 inch 1 foot **1 yard**

13.

1 inch **1 foot** 1 yard

9.

1 inch **1 foot** 1 yard

14.

1 inch 1 foot **1 yard**

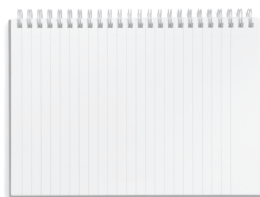
10.

**1 inch** 1 foot 1 yard

15.

1 inch **1 foot** 1 yard

11.

1 inch **1 foot** 1 yard

16.

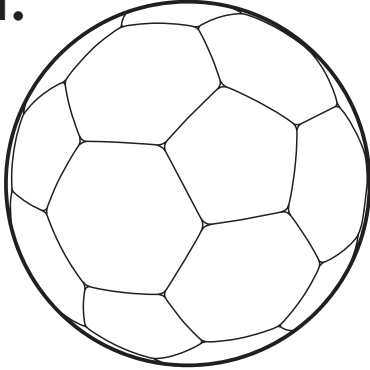
**1 inch** 1 foot 1 yard



LM 6.6A Balls

Use a tape measure. Measure around each real ball.

1.



_____ inches

_____ centimeters

4.



_____ inches

_____ centimeters

2.



_____ inches

_____ centimeters

5.



_____ inches

_____ centimeters

3.



_____ inches

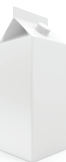
_____ centimeters

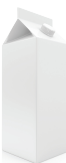
Name _____

LM 6.9A Cups, Pints, and Quarts

Fill in the blanks.

1.  =  1 pint = ____ cups

2.  =  =  1 quart = ____ pints
1 quart = ____ cups

Draw , , or  to make the same amount.

3.

pint


 =

cups

4.

2 pints


 =

cups

5.

1 quart


 =

pints

6.

2 quarts


 =

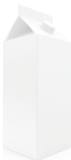
cups

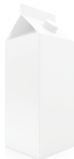


LM 6.9A Cups, Pints, and Quarts

Fill in the blanks.

1.  =  1 pint = 2 cups

2.  =  =  1 quart = 2 pints
1 quart = 4 cups

Draw , , or  to make the same amount.

3.

pint


 =

cups


4.

2 pints


 =

cups


5.

1 quart


 =

pints


6.

2 quarts


 =

cups




Name _____

LM 6.10A Container Search

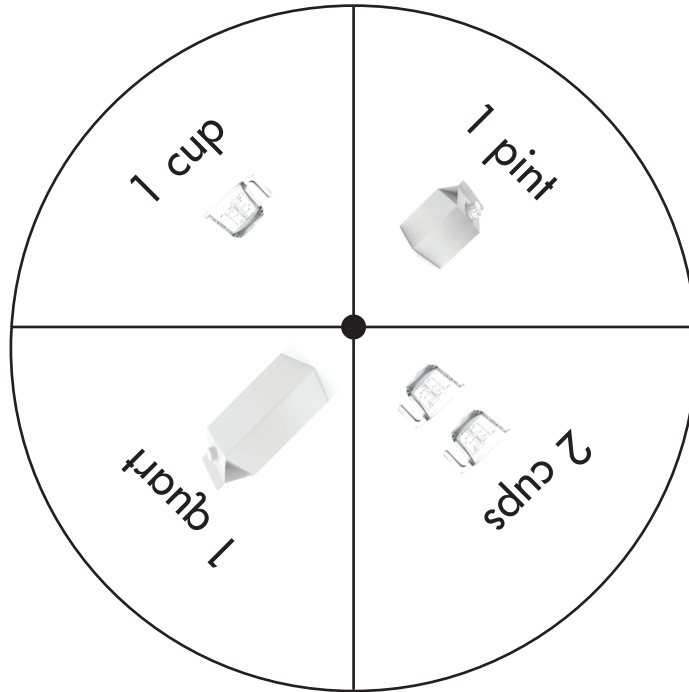
Find objects at home that are used to contain liquids. Record the name of each one and draw a picture.

1.  mug _____	6. _____ _____
2. _____ _____	7. _____ _____
3. _____ _____	8. _____ _____
4. _____ _____	9. _____ _____
5. _____ _____	10. _____ _____

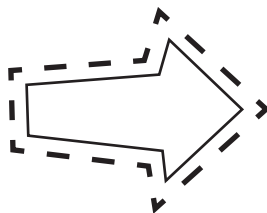


LM 6.14A Game: Capacity Trading

Place a brad fastener in the center of the circle. Cut out the arrow to make a spinner. Cut out the game cards.



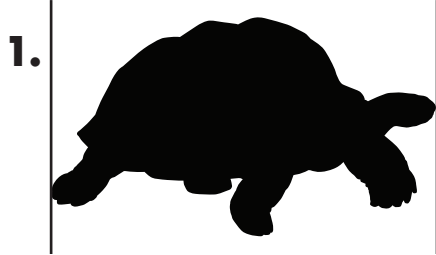
cup	pint	quart
cup	pint	quart
cup	pint	quart
cup	pint	quart
gallon		



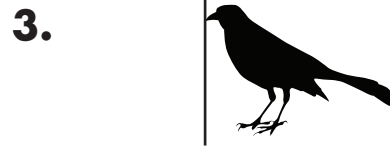
Name _____

LM 6.14B Chapter 6 Test

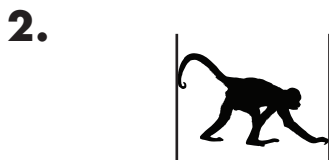
Measure.



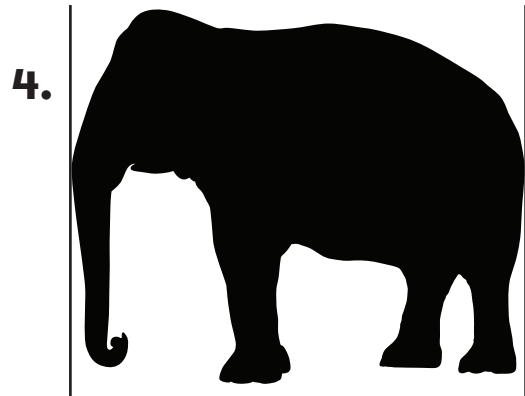
_____ inches



_____ inch



_____ centimeters



_____ centimeters

Circle the container that holds less.



7. Write the letter next to the matching shape.





LM 6.14B Chapter 6 Test

Measure.

1.



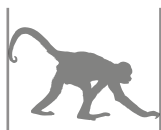
2 inches

3.



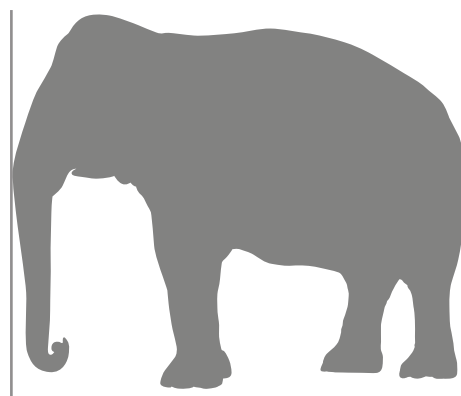
1 inch

2.



2 centimeters

4.



6 centimeters

Circle the container that holds less.

5.



6.



7. Write the letter next to the matching shape.

a.



b.



c.



d.



c



d



a



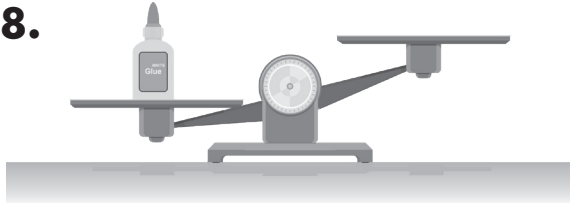
b

Name _____

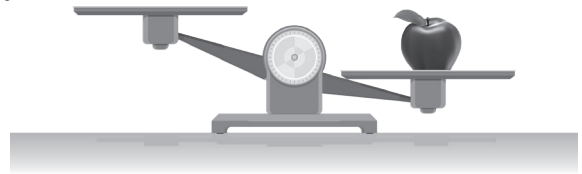
LM 6.14C Chapter 6 Test

Circle one item that would balance the scale.

8.



9.



Match.

10. cup •

•



11. pint •

•

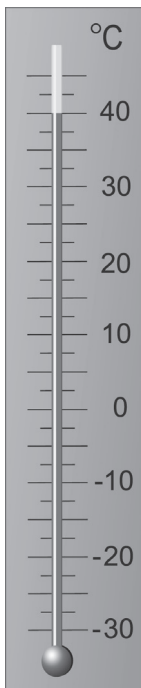


12. quart •

•



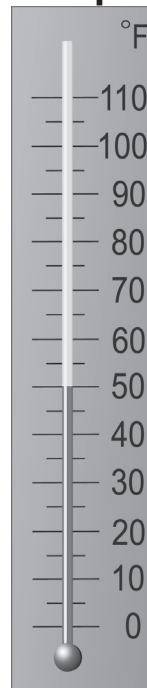
13. Fill in the circle that shows the correct temperature.



☐ 30°C

☐ 40°C

☐ 20°C



☐ 40°F

☐ 50°F

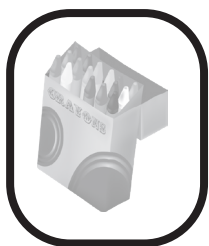
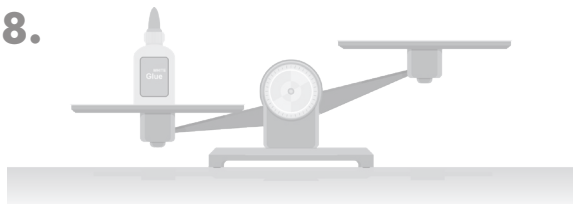
☐ 30°C



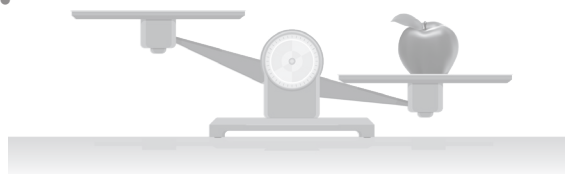
LM 6.14C Chapter 6 Test

Circle one item that would balance the scale.

8.



9.

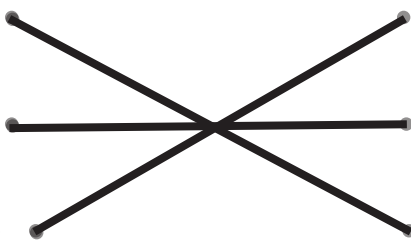


Match.

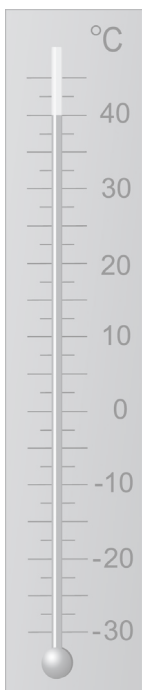
10. cup

11. pint

12. quart



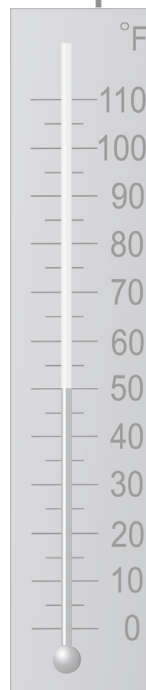
13. Fill in the circle that shows the correct temperature.



☐ 30°C

☒ 40°C

☐ 20°C



☐ 40°F

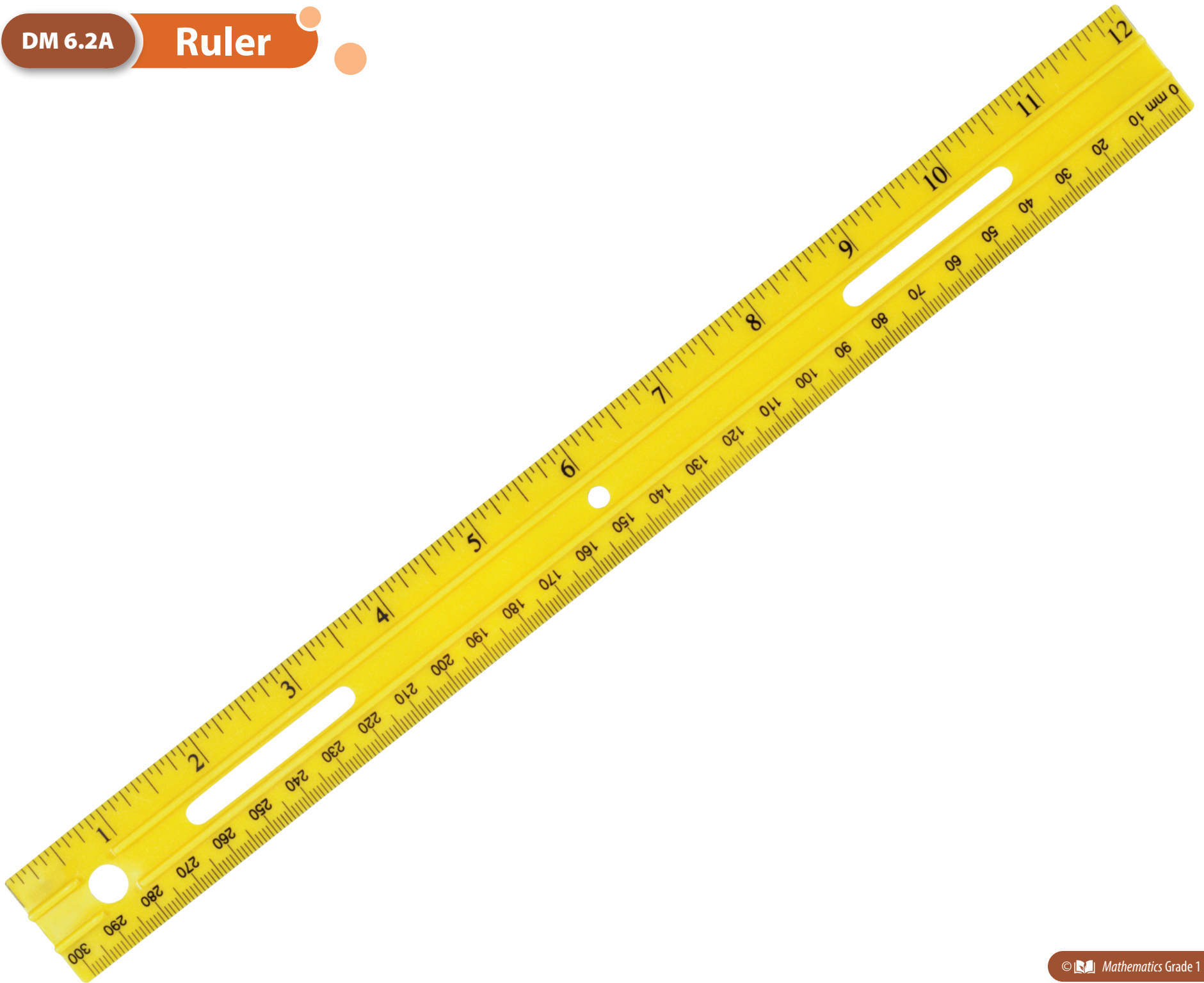
☒ 50°F

☐ 30°C



DM 6.2A

Ruler





DM 6.12A

Thermometer

