

NAME _____

DATE _____

Home Connection 66 ★ Activity

Circle Surround

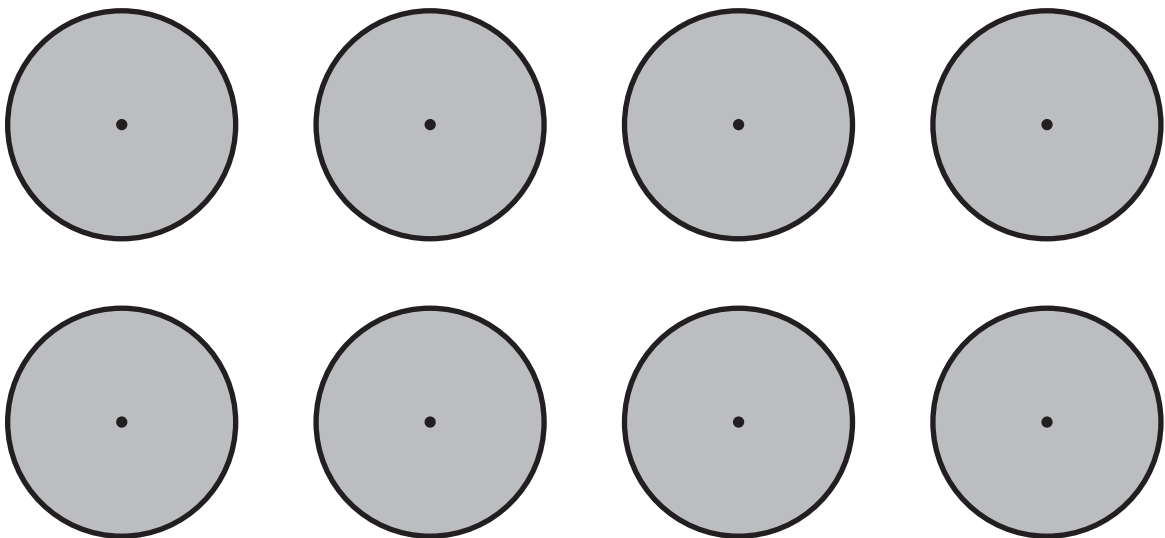
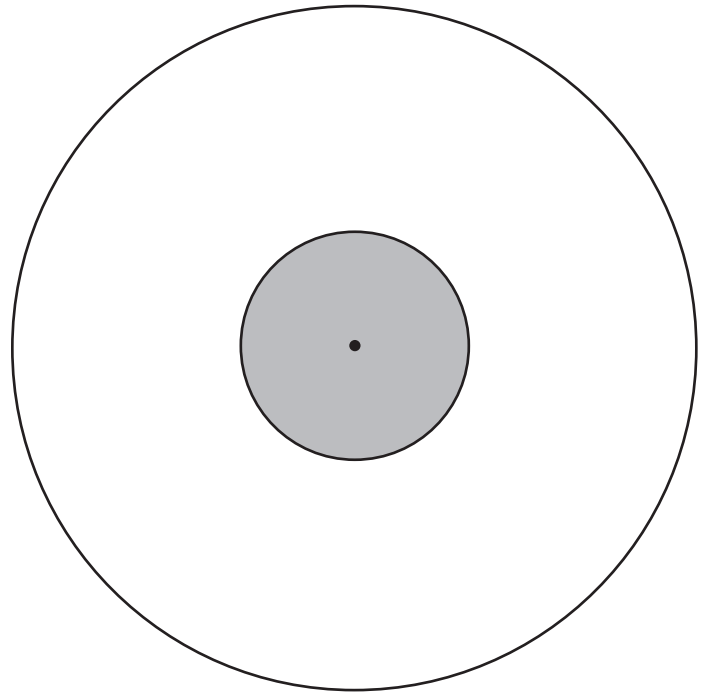
1 Estimate how many circles of the same radius will fit around the small circle in the center of this figure.

2 Cut out the circles at the bottom of the page. Be sure you don't cut off the heavy black line that forms the circumference of each circle.

3 Arrange the cut out circles around the central circle without any gaps or overlapping. How many fit? _____

4 Carefully glue or tape those circles that fit around the central circle. It's okay if you have some extra circles left over.

5 Then go on to the activities on page 249.



(Continued on next page.)

Home Connection 66 Activity (cont.)

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Home Connection 66 Activity (cont.)

6 Look around your home for circular objects. Find as many circular objects as you can that your family has many copies of. See how many of those objects fit around one of the same object. Use the chart below to make a list of the objects you tested and the number that fit around each. Some common items have been listed to get you started.

Circular Object	How many fit around one?
pennies	
tuna cans	
cylindrical drinking glasses	

7 What do you notice?

8 Explain your results. Why is this happening? (Hint: Use your knowledge of circles to develop an explanation.)

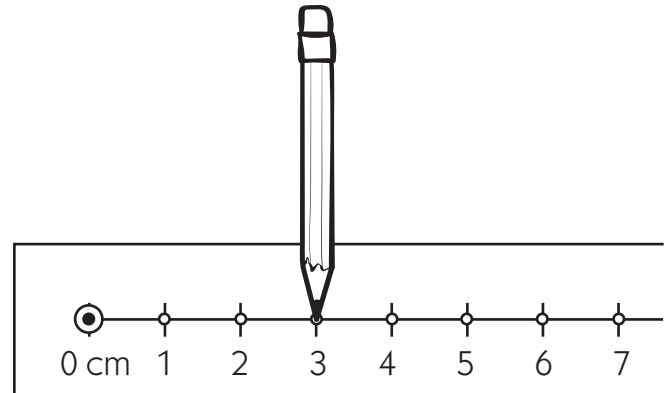
NAME _____

DATE _____

Home Connection 67 ★ Worksheet

Circle Math

1 Imagine drawing a circle using a cardstock compass as it is shown in this diagram.

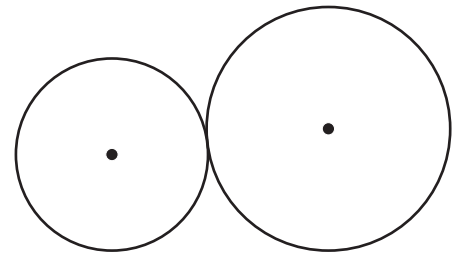


a The radius will be:

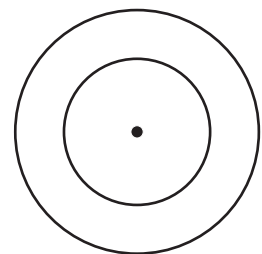
b The diameter will be:

2 Draw a line from each description to the drawing it describes:

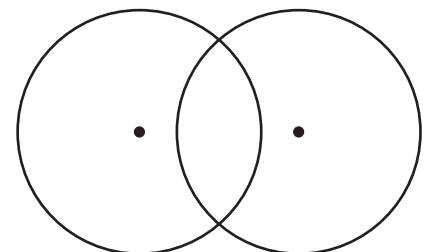
a Intersecting circles cross each other at two points along their circumferences.



b Tangent circles touch each other but they do not intersect.



c Concentric circles have the same center point.



(Continued on back.)

Home Connection 67 Worksheet (cont.)

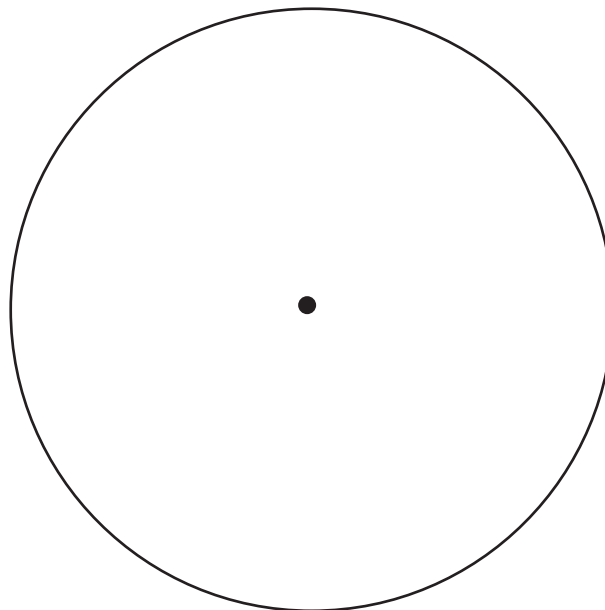
3 Mark and label each of the following terms on the circle below. Use a ruler to make sure your work is accurate.

a Center

b Radius

c Diameter

d Circumference



4 How many centimeters long is the radius, diameter, and circumference of the circle? Use the string and ruler to measure the circumference. Add this information to your labels.

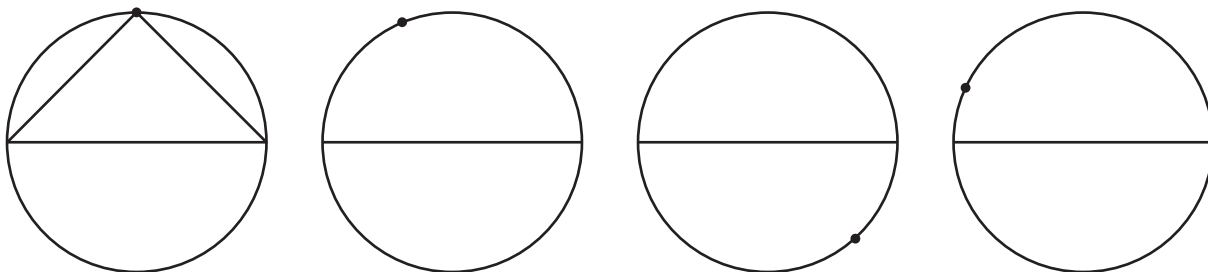
(Continued on next page.)

Home Connection 67 Worksheet (cont.)

Each circle below has a line segment going through its diameter and a point marked on its circumference.

5 Draw a triangle in each circle by connecting the endpoints of each diameter line segment to the point on the circumference. (Use a ruler.)

example



6 Look at each angle that has the point on the circumference as its vertex. What do you notice?

7 How many degrees do the 3 angles in each triangle add up to?

8 How does this compare to the total number of degrees in a circle?

Home Connection 67 Worksheet (cont.)

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NAME _____

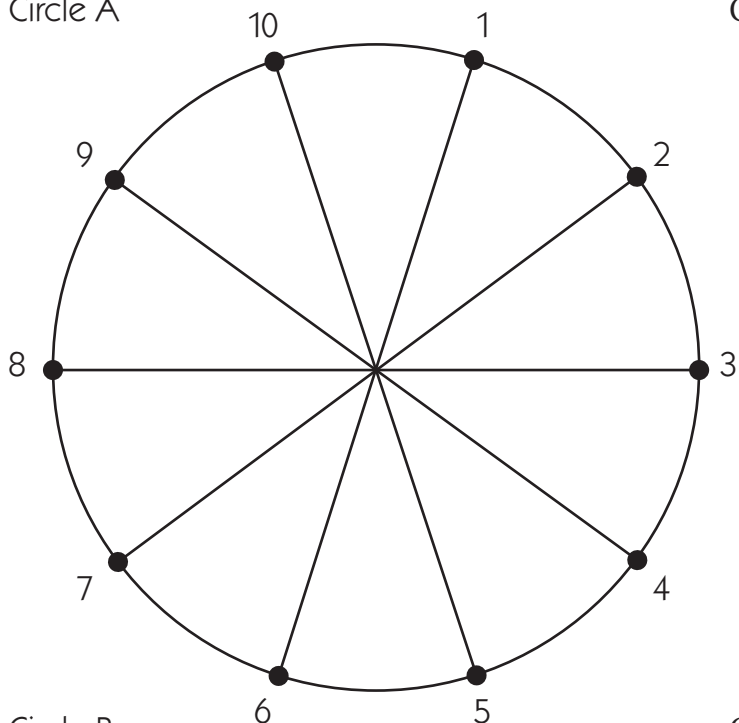
DATE _____

Home Connection 68 ★ Activity

Circle Explorations

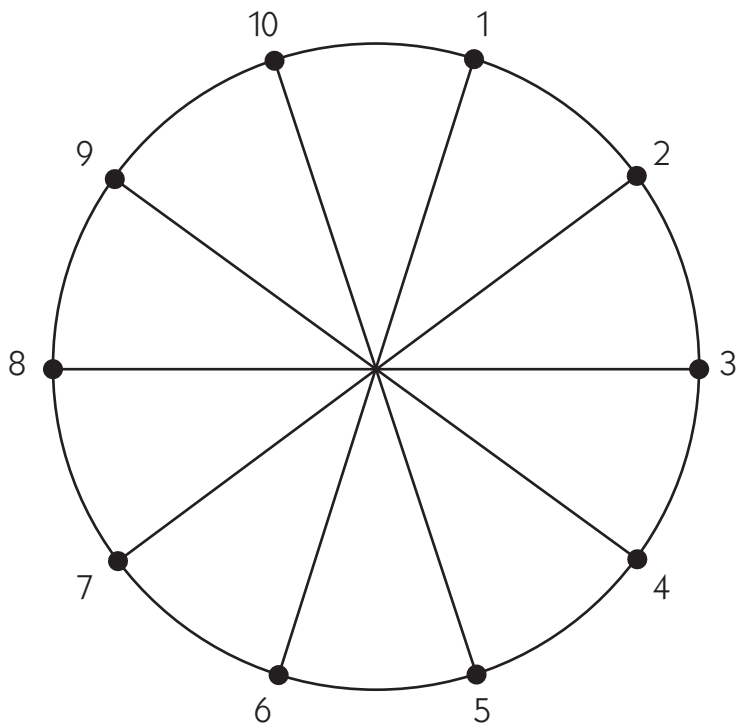
See directions on the next page.

Circle A



Observations about circle A:

Circle B



Observations about circle B:

Home Connection 68 Activity (cont.)**Directions for Circle A**

1 Use a ruler to draw line segments to connect each numbered point on the circumference of circle A. Draw a line from point 1 to point 2, from point 2 to point 3, and so on.

2 The polygon you have just drawn is called a decagon because it has 10 sides.

3 Each numbered point on this circle has a partner right across the circle from it. Draw line segments to connect each point to the points on either side of its partner.

example Point 1's partner across the circle is point 6. You will draw a line segment connecting point 1 to point 5. Then draw another line segment connecting point 1 to point 7.

4 Do this for all ten points on the circumference of circle A.

5 Write at least 3 mathematical observations about the figure you've just drawn.

Directions for Circle B

6 Now use a ruler to draw line segments to connect only the even-numbered points on the circumference of circle B. Do not connect the odd-numbered points. Draw a line from point 2 to point 4, from point 4 to point 6, from point 6 to point 8, and so on.

7 How many sides are in the polygon you have just drawn inside circle B? _____. What is the name of a polygon with this many sides? _____

(Continued on back.)

Home Connection 68 Activity (cont.)

Directions for Circle B (cont.)

8 Each numbered point on circle B has a partner right across the circle from it. Draw line segments to connect each even-numbered point to the points on either side of its partner.

example Point 2's partner is point 7. You will draw a line segment connecting point 2 to point 8. Then draw another line segment connecting point 2 to point 6.

9 Do this for all five even-numbered points on the circumference of circle B.

10 Write at least 3 mathematical observations about the figure you've just drawn.

Coloring the Figures

11 Design a color scheme and color both figures with colored pencils or felt pens.

Home Connection 68 Activity (cont.)

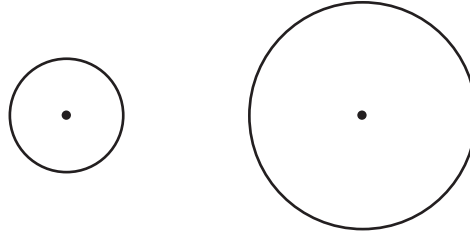
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Home Connection 69 ★ Worksheet

Unit Eight Review

Tanya and Patrick investigated how the size of a top's radius affects its spin time. They made two tops that were identical except that top A had a radius of 3 cm and top B had a radius of 6 cm. Both tops were made from 3 layers of tagboard.



Top A

Top B

Then they spun each top 10 times and recorded the number of seconds for each spin. Here is their raw data:

Trial Number	Top A	Top B
	Duration of Spins in Seconds	Duration of Spins in Seconds
1	15	31
2	14	31
3	13	34
4	12	34
5	10	33
6	10	34
7	9	33
8	10	31
9	11	30
10	12	32

(Continued on next page.)

Home Connection 69 Worksheet (cont.)

1a List all 10 spin durations for top A in order from least to greatest.

b Determine the following statistics for top A, using the list above.

Range _____ Mode _____ Median _____ Mean _____

2a List all 10 spin durations for top B in order from least to greatest.

b Determine the following statistics for top B, using the list above.

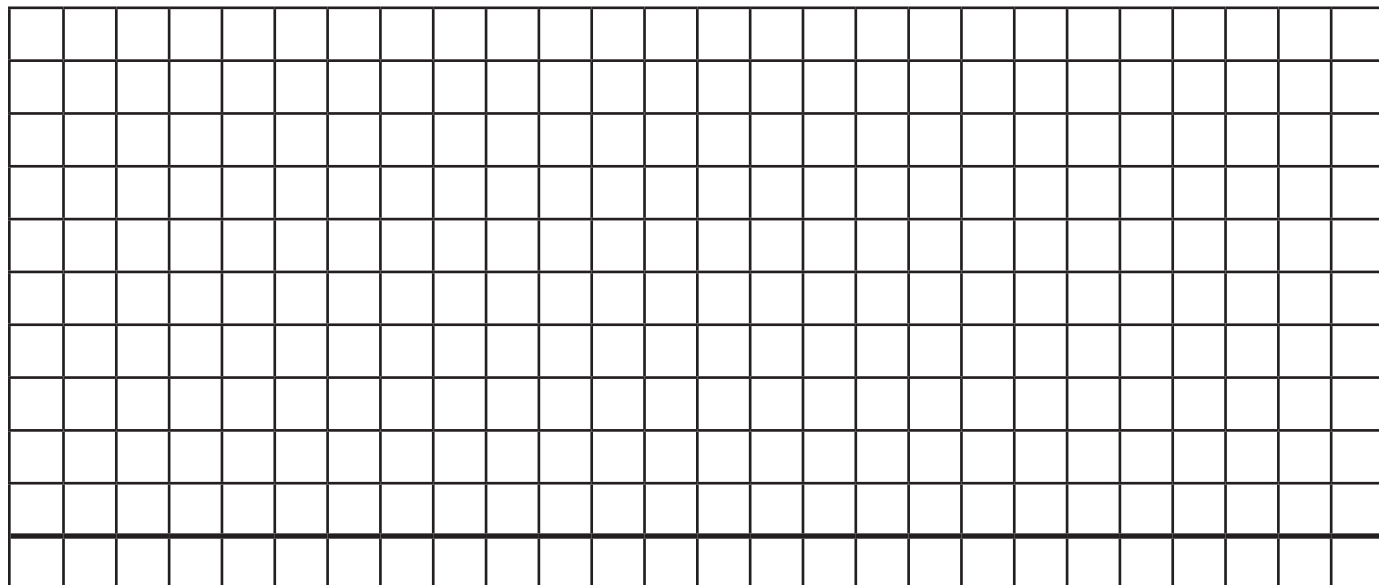
Range _____ Mode _____ Median _____ Mean _____

3 Use the grid below to make a line plot of the data for both tops.

a Label your line plot along the side and the bottom.

b Number it to fit your data.

c Give your line plot a title and make a key to show which top is which.



Key	
-----	--

NAME _____

DATE _____

Home Connection 69 Worksheet (cont.)

4 What conclusion can you make about this experiment? Describe a possible explanation for Tanya and Patrick's results.

5 Partway through the investigation Tanya realized that they had actually changed two attributes instead of just one. She said when the radius changed the mass also changed. Please explain Tanya's thinking.