Name _____ Date _____ Pd ____

10.7 Circles in the Coordinate Plane CYU

☑ Use when you get it right all by yourself
S Use when you did it all by yourself, but made a silly mistake
H Use when you could do it alone with a little help from teacher or peer
G Use when you completed the problem in a group
X Use when a question was attempted but wrong (get help)
N Use when a question was not even attempted

CONCEPTS	BASIC	INTERMEDIATE	ADVANCED
Writing equations of circles	1 - 4	5, 6	10
Distance formula	5, 6		10
Matching Graphs and equations	7 - 9		
Identifying the center (h, k)	1 – 6	7 - 9	10
Identifying the radius, r	1 - 4	2, 5 – 9	10
Real-World Application			11
Graphing circle		5, 6	

In Exercises 1–4, write the standard equation of the circle with the given center and radius.
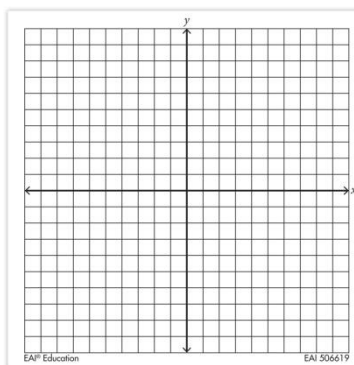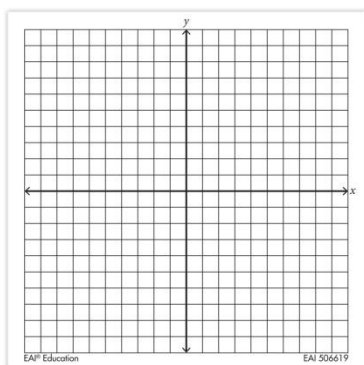
1.

2.
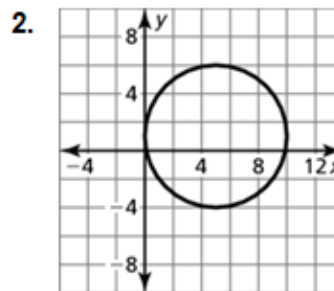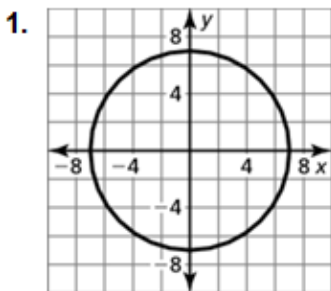
3.   A circle with center (0, 0) and radius 8   4. A circle with center (0, -5) and radius 2
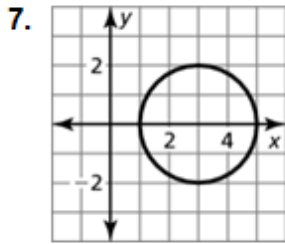
In Exercises 5 & 6, use the center and a point on the circle to write the standard equation of the circle, and then graph that circle.
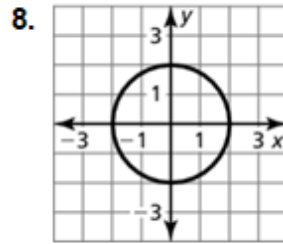
5.   center: (0, 0) & point: (3, -4)   6. Center: (3, -2) & point: (23, 19)
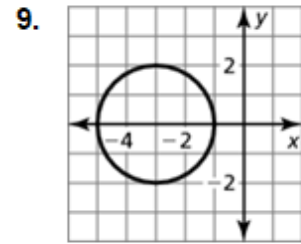
In Exercises 7–9, match each graph with its equation.

7.

8.

9.

A. $x^2 + y^2 = 4$

B. $(x - 3)^2 + y^2 = 4$

C. $(x + 3)^2 + y^2 = 4$

10. **Prove or Disprove** that the point (-3, 3) lies on the circle centered at the origin with the radius of 4 units.

11. You are using a math software program to design a pattern for an Olympic flag. In addition to the dimensions shown in the diagram, the distance between the outer edges any two adjacent rings in the same row is 3 inches.

   a. Use the given dimensions to write equations representing the outer circles of the five rings. Use inches as units in a coordinate plane with the lower left corner of the flag on the origin.
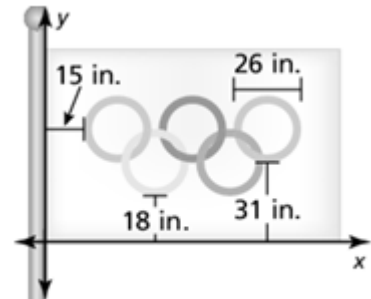
   b. Each ring is 3 inches thick. Explain how you can adjust the equations of the outer circles to write equations representing the inner circles.

CYU Reflection: *How far can you go: basic, intermediate, or advanced?*

Rate your mastery level!

How confident are you with the skills this CYU covered? Circle the score you would give yourself.

1	2	3	4	5	6	7	8
Basic		Intermediate			Advanced		Solved ALL!