G.12 Circles on the Coordinate Plane

1. Which equation represents a circle that has a radius of 4 and a center at (4, -4)?
   A. \((x - 4)^2 + (y + 4)^2 = 16\)
   B. \((x + 4)^2 + (y - 4)^2 = 4\)
   C. \((x + 4)^2 - (y - 4)^2 = 4\)
   D. \((x - 4)^2 + (y - 4)^2 = 16\)

2. Directions: Circle all possible points on the circle. You must choose all answers.
   A circle has a center with coordinate (-2, -4) and the point (4, -4) lies on the circle. Circle all points that lie on the circle.
   \((-2, 2)\) \((-8, -4)\) \((0, 0)\) \((1, -1)\) \((-2, -10)\) \((4, 0)\)

3. Which equation of a circle has a radius of 7 and a center at the origin?
   A. \(x^2 + y^2 = 49\)
   B. \(x^2 + y^2 = 14\)
   C. \(x^2 + y^2 = 7\)
   D. \(\frac{x^2}{14} + \frac{y^2}{14} = 1\)

4. Directions: Write your answers in the boxes provided.
   Identify the center, radius, and diameter of a circle with the following standard equation.
   \((x - 4)^2 + (y + 10)^2 = 100\)
   - Center
   - Radius
   - Diameter

5. Circle M is defined by the equation
   \((x + 2)^2 + (y - 5)^2 = 64\).
   What are the coordinates of the center and the length of the radius of circle M?
   A. Center: (-2, 5); Radius = 32 units
   B. Center: (-2, 5); Radius = 8 units
   C. Center: (2, -5); Radius = 32 units
   D. Center: (2, -5); Radius = 8 units

6. Circle W has a center at (-4, -2) and has a diameter of 10 units. Which point lies on circle W?
   A. (2, -2)
   B. (-4, 8)
   C. (4, -3)
   D. (-1, 2)

7. Circle P has a center at (-7, 1). Which equation could represent circle P?
   A. \((x + 7)^2 - (y - 1)^2 = 41\)
   B. \((x + 7)^2 + (y - 1)^2 = 41\)
   C. \((x - 7)^2 - (y + 1)^2 = 41\)
   D. \((x - 7)^2 + (y + 1)^2 = 41\)

BONUS

Given: Circle C

What is the value of \(x\)?

A. 144°
B. 70°
C. 43°
D. 72°