

Name Key

Circles & Tangents WS

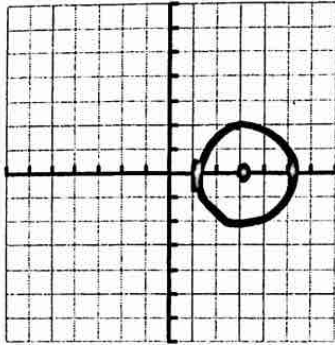
Review of Circles

Identify the center and radius of each circle. Graph each circle.

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

center: 3, 0

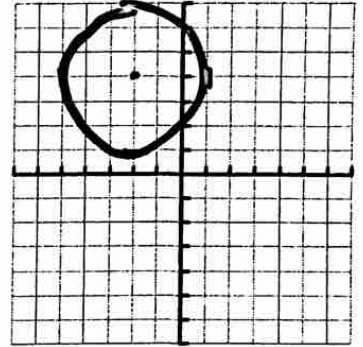
radius = 2



2. $(x+2)^2 + (y-4)^2 = 9$

center: -2, 4

radius = 3



Write the equation of each circle in standard form.

3. center (-1, 5); diameter = 16

Center = -1, 5
radius = 8

$$(x+1)^2 + (y-5)^2 = 64$$

4. center (0, 0); passing through (2, 5)

Center: 0, 0
radius: $\sqrt{29}$

$$d = \sqrt{(0-2)^2 + (0-5)^2} = \sqrt{4+25}$$

$$(x)^2 + y^2 = 29$$

5. diameter has endpoints (-3, -2) and (3, 6)

Center: 0, 2
radius: 5

$$\rightarrow \left(\frac{-3+3}{2}, \frac{-2+6}{2} \right) = 0, 2$$

$$x^2 + (y-2)^2 = 25$$

*use center

$$\rightarrow d = \sqrt{(0+3)^2 + (2+2)^2} = \sqrt{9+16} = \sqrt{25}$$

Write the equation of each circle in standard form by completing the square.

6. $x^2 + y^2 - 4x + 6y - 3 = 0$

$$x^2 - 4x + 4 + y^2 + 6y + 9 = 3 + 4 + 9$$

$$(x-2)^2 + (y+3)^2 = 16$$

7. $x^2 + y^2 + 16x - 24y + 64 = 0$

$$x^2 + 16x + 64 + y^2 - 24y + 144 = -64 + 144$$

$$(x+8)^2 + (y-12)^2 = 144$$