

The Equation of a Circle

$$(x-h)^2 + (y-k)^2 = r^2$$

center (h, k)

radius = r

1. Identify the center and radius of each circle.

a) $(x+4)^2 + (y-3)^2 = 25$

b) $(x-1)^2 + (y-6)^2 = 1$

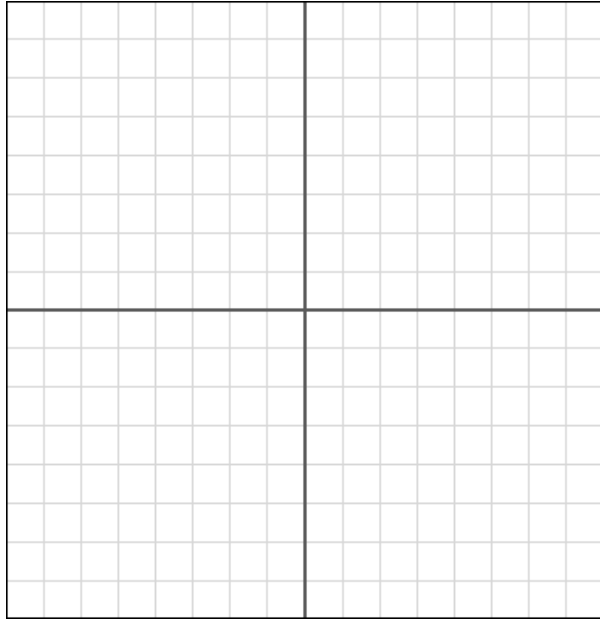
c) $x^2 + (y-1)^2 = \frac{4}{81}$

d) $\left(x - \frac{1}{2}\right)^2 + \left(y + \frac{3}{2}\right)^2 = .04$

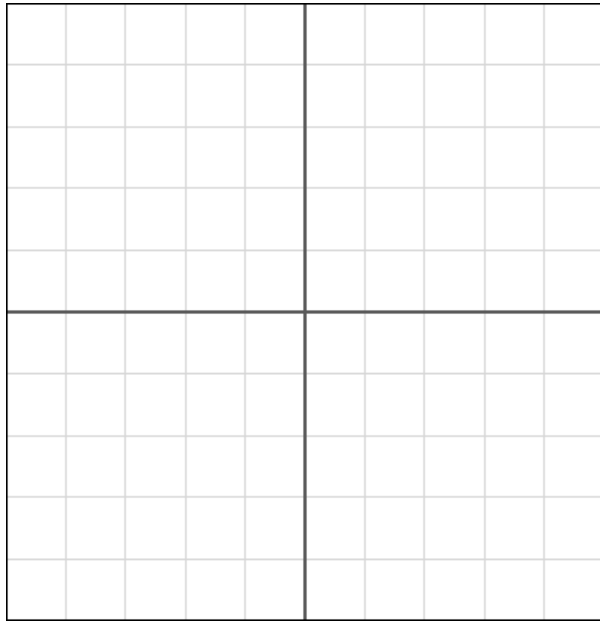
e) $x^2 + y^2 = 2$

2. Write the equation of each circle and sketch the graph.

- a) center $(-1, -4)$
radius = 4

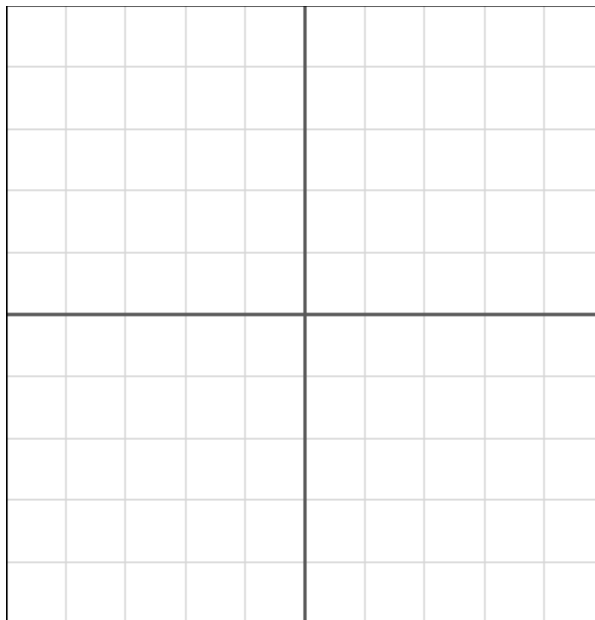


- b) center $(0, 1)$
radius = $\frac{1}{3}$



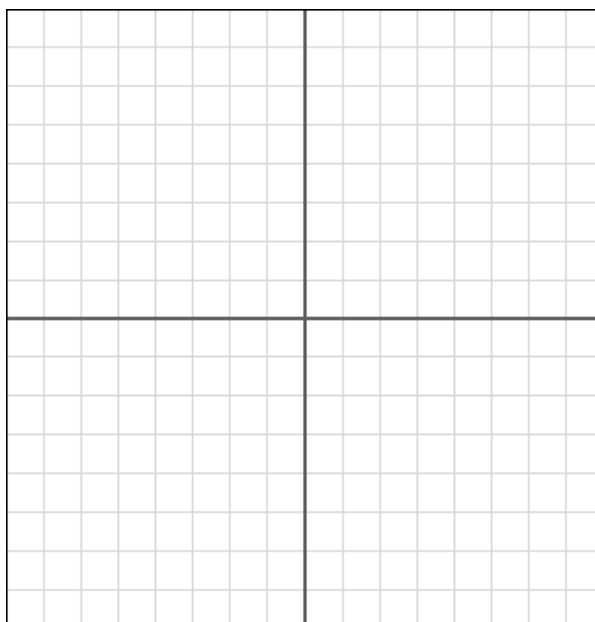
c) center is at the origin

$$\text{radius} = \sqrt{6}$$



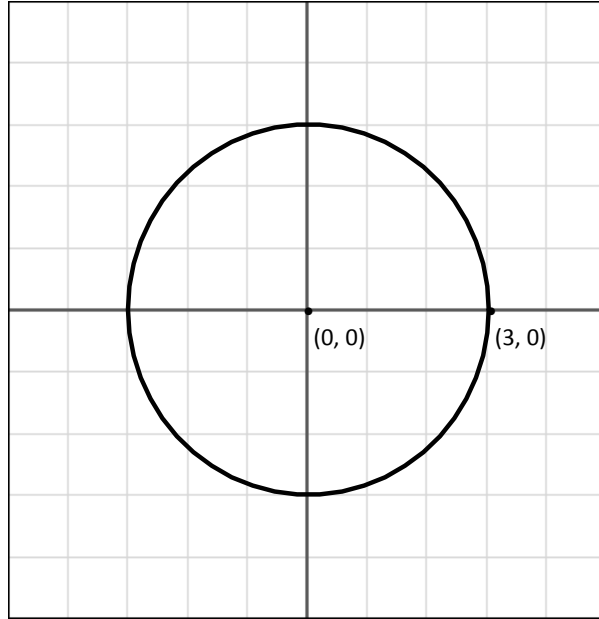
d) center $\left(\frac{2}{3}, 0\right)$

$$\text{radius} = 5\sqrt{2}$$

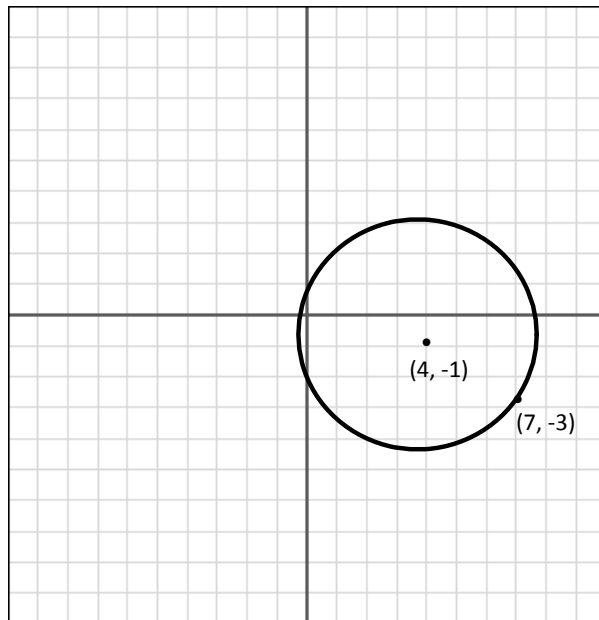


3. Write the equation for each circle.

a)



b)



4. Write the equation of the circle where the endpoints of the diameter are $(-6, 2)$ and $(1, -3)$.

