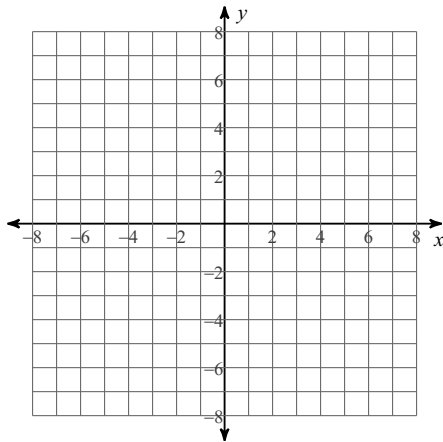


Practice Test 10

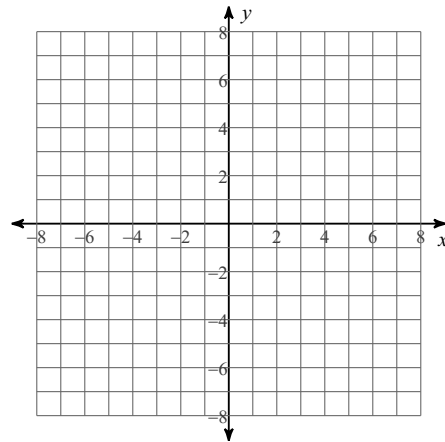
Identify the vertex, focus, and directrix of each. Then sketch the graph.

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



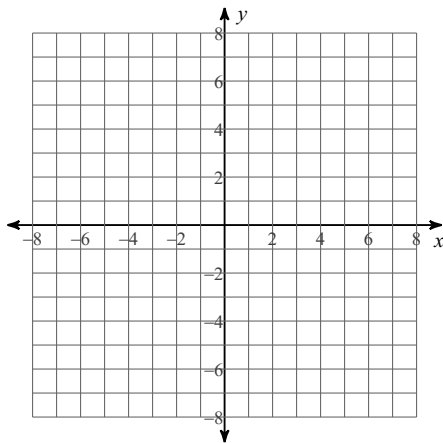
Identify the center and radius of each. Then sketch the graph.

2)  $(x + 1)^2 + (y + 2)^2 = 25$



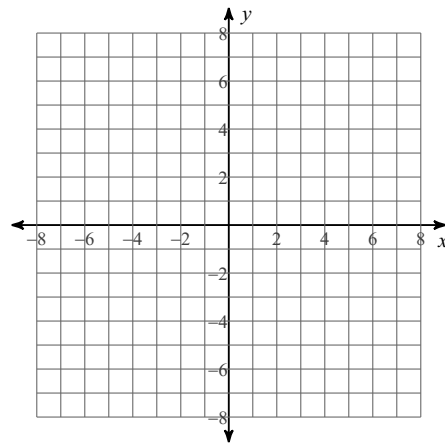
Identify the center, vertices, and foci of each. Then sketch the graph.

3)  $\frac{(x - 4)^2}{9} + \frac{y^2}{49} = 1$



Identify the vertices, foci, and asymptotes of each. Then sketch the graph.

4)  $\frac{x^2}{25} - \frac{y^2}{4} = 1$



Use the information provided to write the transformational form equation of each parabola.

5) Vertex:  $(6, 7)$ , Focus:  $(6, \frac{15}{2})$

Use the information provided to write the standard form equation of each circle.

6) Center:  $(-2, 15)$   
Radius: 4

Use the information provided to write the standard form equation of each ellipse.

- 7) Vertices:  $(-2, 1), (-2, -9)$   
 Foci:  $(-2, -1), (-2, -7)$

Use the information provided to write the standard form equation of each hyperbola.

- 8) Vertices:  $(6, 17), (6, -11)$   
 Endpoints of Conjugate Axis:  $(14, 3)$   
 $(-2, 3)$

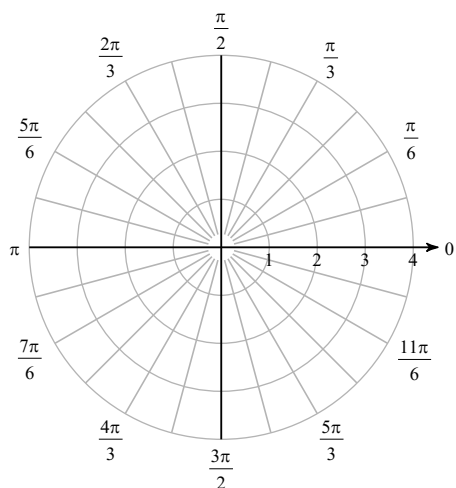
Write each pair of parametric equations in rectangular form.

9)  $x = 3\sin t, y = 4\cos t$

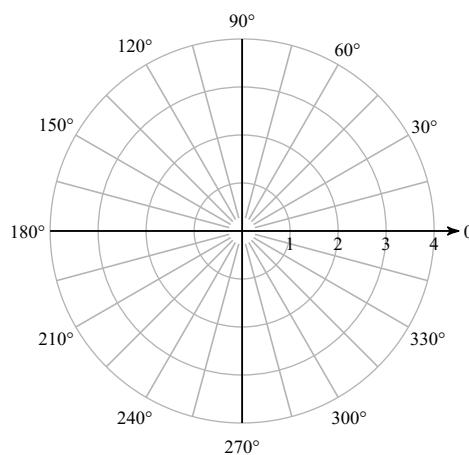
10)  $x = 4\cos 2t, y = 3\sin 2t$

Plot the point with the given polar coordinates.

11)  $(4, \frac{3\pi}{4})$

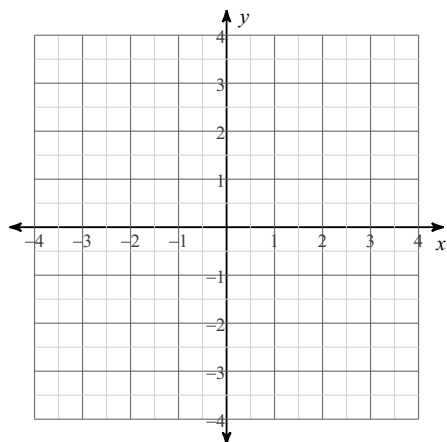


12)  $(1, 330^\circ)$



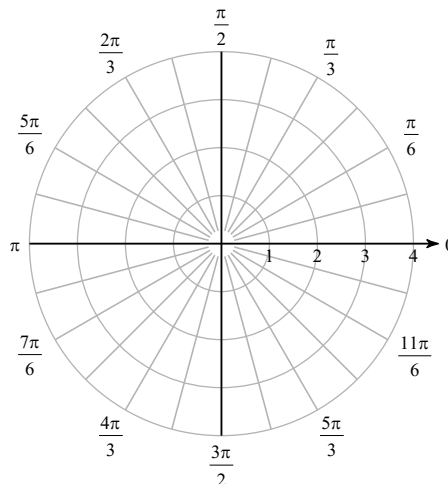
Convert each pair of polar coordinates to rectangular coordinates.

13)  $(4, \frac{11\pi}{6})$



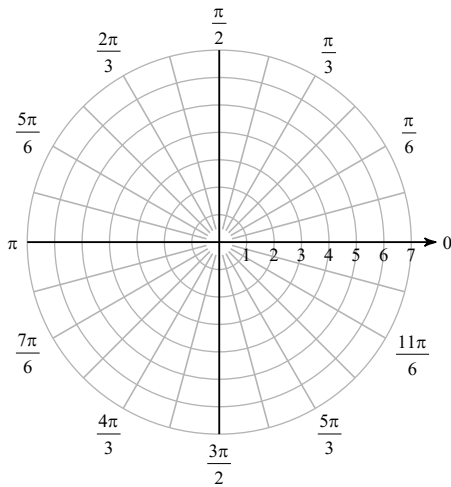
Convert each pair of rectangular coordinates to polar coordinates where  $r > 0$  and  $0 \leq \theta < 2\pi$ .

14)  $(-\frac{\sqrt{2}}{2}, -\frac{\sqrt{2}}{2})$

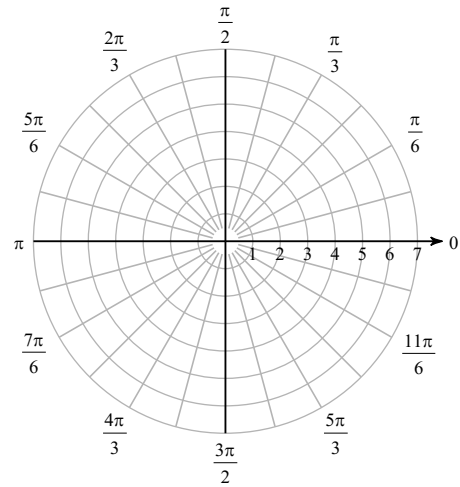


Consider each polar equation. Classify the curve; and sketch the graph.

15)  $r = 5\sin(3\theta)$



16)  $r^2 = 36\cos(2\theta)$



Convert each equation from rectangular to polar form.

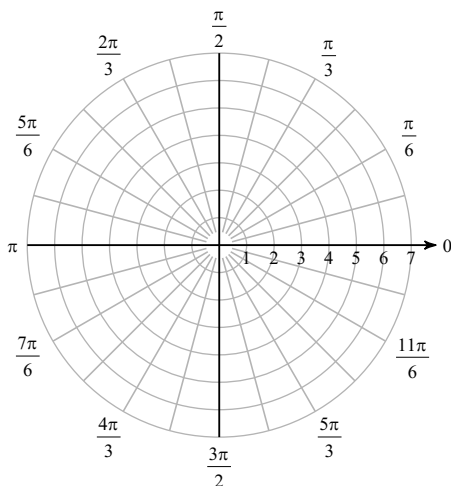
17)  $x = y^2$

Convert each equation from polar to rectangular form.

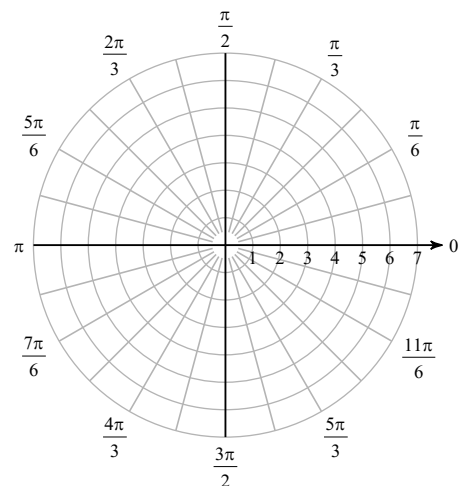
18)  $r = 5\cot\theta\csc\theta$

Each polar equation describes a conic section with a focus at the origin. Find the eccentricity, classify the conic section, and graph the polar equation.

19)  $r = \frac{4.8}{3 - 4.8\sin\theta}$

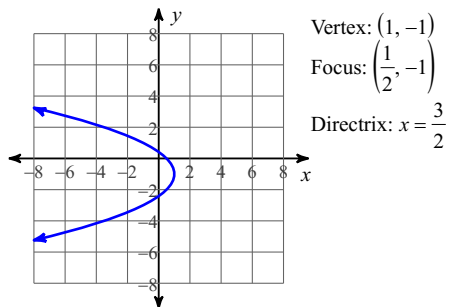


20)  $r = \frac{2.4}{3 + 2.4\cos\theta}$

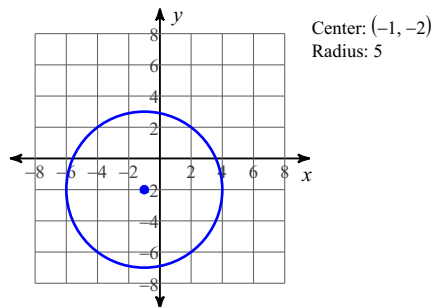


# Answers to Practice Test 10 (ID: 1)

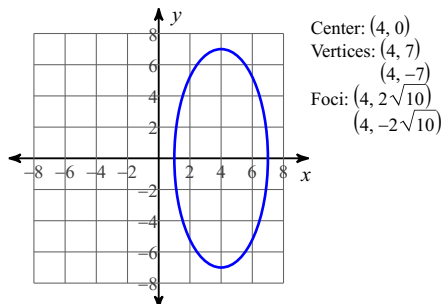
1)



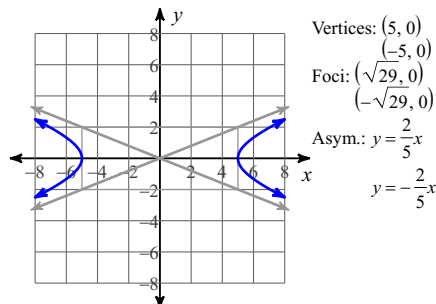
2)



3)



4)



5)  $2(y - 7) = (x - 6)^2$       6)  $(x + 2)^2 + (y - 15)^2 = 16$

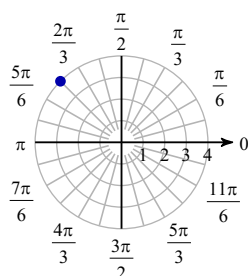
7)  $\frac{(x + 2)^2}{16} + \frac{(y + 4)^2}{25} = 1$

8)  $\frac{(y - 3)^2}{196} - \frac{(x - 6)^2}{64} = 1$

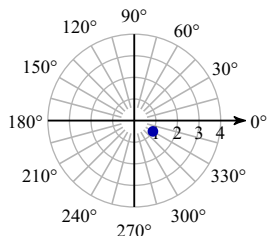
9)  $\frac{x^2}{9} + \frac{y^2}{16} = 1$

10)  $\frac{x^2}{16} + \frac{y^2}{9} = 1$

11)

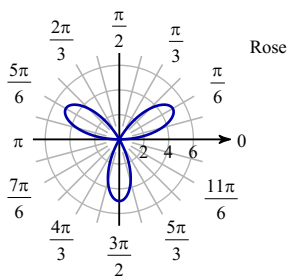


12)

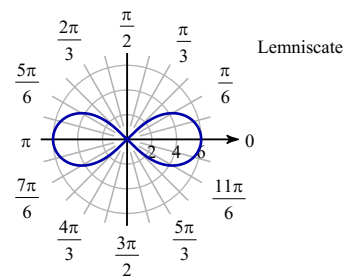


14)  $(1, \frac{5\pi}{4})$

15)



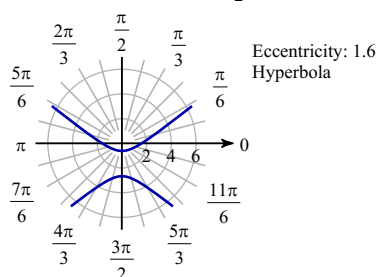
16)



17)  $r = \cot \theta \csc \theta$

18)  $x = \frac{y^2}{5}$

19)



20)

