

In Exercises 1-3, find the standard form of the equation of the circle with the given characteristics.	
1	Center: $(5,0)$; radius: $\sqrt{21}$
2	Center: $(3,7)$; Point on the circle: $(1,0)$
3	Center: $(-3,-1)$; diameter: $2\sqrt{7}$
4	Identify the center and radius of the circle with the equation: $(x+9)^2 + (y+1)^2 = 36$
In Exercises 5 – 9, write the equation of the circle in standard form. Sketch the circle. Use graph paper.	
5	$\frac{1}{4}x^2 + \frac{1}{4}y^2 = 1$
6	$x^2 + y^2 - 2x + 6y + 9 = 0$
7	$4x^2 + 4y^2 + 12x - 24y + 41 = 0$
8	$9x^2 + 9y^2 + 54x - 36y + 17 = 0$
9	$y^2 = 81 - x^2$
Find the x - and y -intercepts of the graph of the circle.	
10	$(x-2)^2 + (y+3)^2 = 9$
11	$x^2 - 2x + y^2 - 6y - 27 = 0$
12	$(x-6)^2 + (y+3)^2 = 16$
13	Graph the circle on a graphing calculator: $x^2 + y^2 = 16$
14	Use a graphing calculator to find the x - and y -intercepts of the circle $(x+5)^2 + (y-4)^2 = 25$

Answers:

1) $x^2 + y^2 = 18$	2)	3) $(x+3)^2 + (y+1)^2 = 7$
4) Center: $(-9,-1)$ Radius: 6	5) $x^2 + y^2 = 4$	6) $(x-1)^2 + (y+3)^2 = 1$
7) $\left(x + \frac{3}{2}\right)^2 + (y-3)^2 = 1$	8) $(x+3)^2 + (y-2)^2 = \frac{100}{9}$	9) $x^2 + y^2 = 81$
10) x -int: $(2,0)$ y -int: $(0, -3 \pm \sqrt{5})$	11) x -int: $(1 \pm 2\sqrt{2}, 0)$ y -int: $(0, 9)$ and $(0, -3)$	12) x -int: $(6 \pm \sqrt{7}, 0)$ y -int: none