

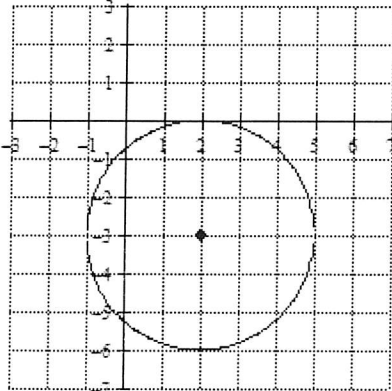
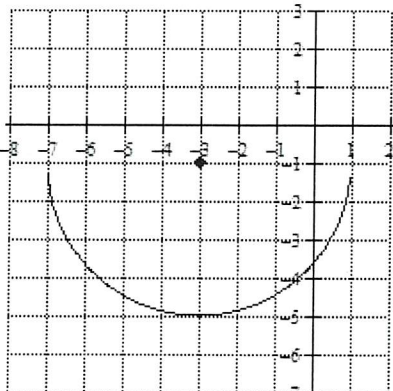
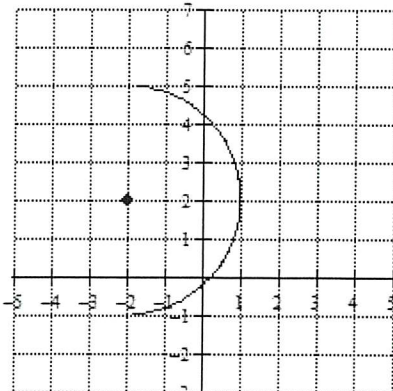
Day #44 Homework

In exercises 1 – 4, the equation of a circle is given. Find the center and radius of each circle.

<p>1. $(x+2)^2 + (y-3)^2 = 20$</p>	<p>3. $x^2 + y^2 + 2x + 8y - 8 = 0$</p>
<p>2. $3(x-4)^2 + 3(y+1)^2 = 51$</p>	<p>4. $2x^2 + 2y^2 + 12x - 8y + 14 = 0$</p>

5. Find the area and circumference of a circle whose equation is $x^2 + y^2 + 6x - 10y + 18 = 0$.

In exercises 6 – 8, find the equation of the circle or semi-circle pictured.

<p>6.</p> 	<p>7.</p> 	<p>8.</p> 
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9. The center of a circle is the point $(x, -4)$. If the point $(3, -1)$ is on the circle and the radius is $\sqrt{34}$, what is the equation of the circle in the form $x^2 + y^2 + ax + by + c = 0$?

In exercises 10 and 11, an equation of a line and a circle are given. Find the point(s), if they exist, at which the two graphs intersect each other. Graph each on a graphing calculator and confirm your algebraically found answer.

10. $x + y = 23$ $x^2 + y^2 = 289$

11. $x - y = 3$ $x^2 + y^2 - 10x + 4y + 13 = 0$

For exercises 12 – 15, find the equation of the circle in the form $(x - h)^2 + (y - k)^2 = r^2$ described. It may be helpful to draw a picture of the circle described.

12. The center is $(2, 3)$ and the circle passes through the point $(5, 6)$	13. The points $(3, 2)$ and $(-5, -4)$ are endpoints of the diameter
14. The center of the circle is $(-2, 1)$ and is tangent to the line $x = 3$	15. The center of the circle is $(2, 3)$ and is tangent to the y -axis