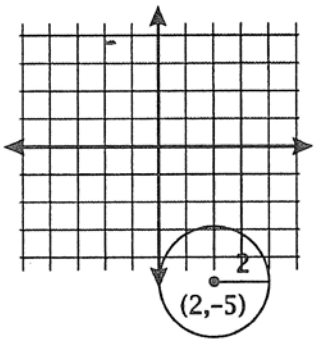
Name_____ Date_____

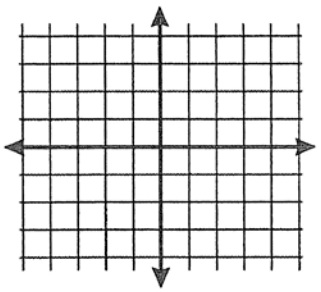
12.7 - Equations of Circles

Graph each circle and label its center and radius.

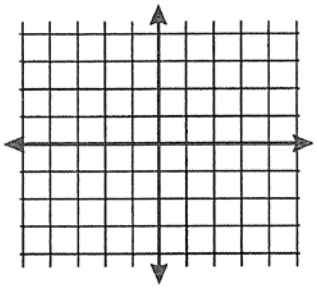
Example: $(x-2)^2+(y+5)^2=4$
center $(2,-5)$
radius $=2$



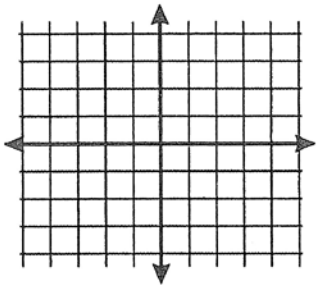
1. $x^2+(y-3)^2=16$



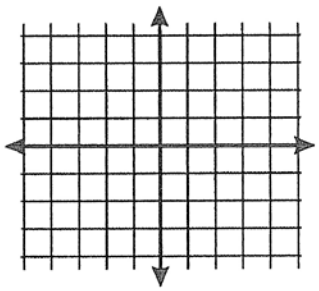
2. $x^2+y^2=64$



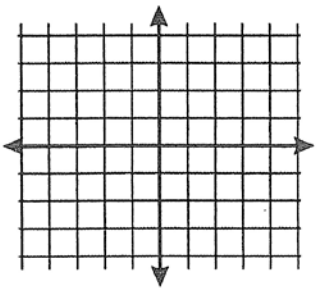
3. $(x-1)^2+(y+1)^2=1$



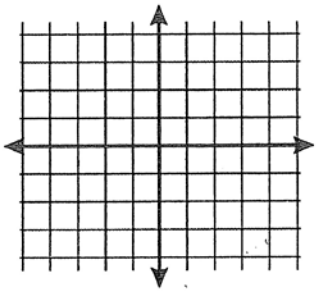
4. $(x-7)^2+(y-2)^2=25$



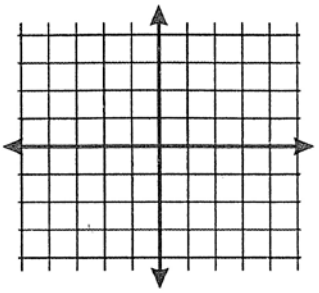
5. $(x+4)^2+y^2=9$



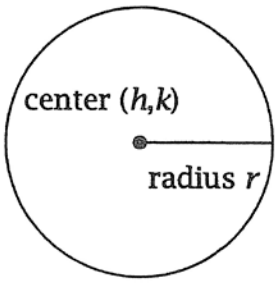
6. $x^2+(y-12)^2=20$



7. $(x+6)^2+(y+9)^2=15$



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



Given the equation for a circle, identify its center and its radius.

Example: $(x-2)^2+(y-3)^2=25$
center $(2,3)$
radius $=5$

1. $(x-4)^2+(y+10)^2=144$

2. $x^2+(y-7)^2=49$

3. $x^2+y^2=1$

4. $(x+3)^2+(y+11)^2=15$

5. $(x-15)^2+y^2=10$

Given the center and the radius of a circle, write the equation describing the circle.

Example: $(0,4), r=9$
$(x-0)^2+(y-4)^2=81$
$x^2+(y-4)^2=81$

1. $(0,0), r=8$

2. $(-2,3), r=2$

3. $(-7,-18), r=14$

4. $(12,9), r=1$

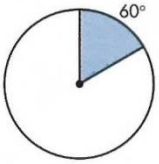
5. $(10,0), r=22$

Name_____ Date_____

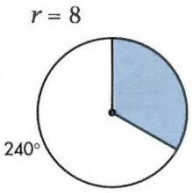
12.65 - Areas of Parts of a Circle

Find the shaded area. The radius of each circle is *r*. If two circles are shown, *r* is the radius of the smaller circle and *R* is the radius of the larger one. All given measurements are in centimeters.

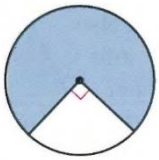
1) $r = 6$



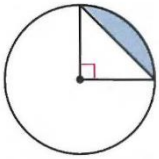
2) $r = 8$



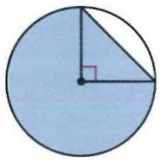
3) $r = 16$



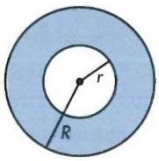
4) $r = 2$



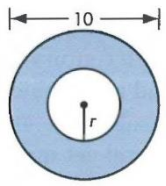
5) $r = 8$



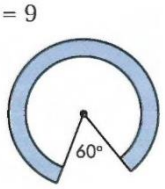
6) $R = 7$
$r = 4$



7) $r = 2$

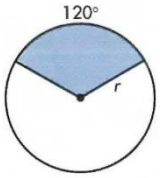


8) $R = 12$
$r = 9$

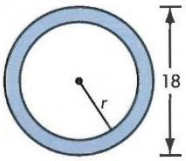


For the following, find the measurement of the radius.

9) The shaded area is 12π cm^2.



10) The area of the annulus is 32π cm^2.



Find the $m\angle ABC$.

11) The shaded area is 120π cm^2.
$r = 24$ cm