

WARM-UP

- measure  $\widehat{AB} = 100^\circ$   
 Find the length of AB  
 $\text{length } \widehat{AB} = \frac{100}{360} \cdot 2\pi \cdot r = 6.98$
- Solve for r  
 $r^2 + 12^2 = (r+8)^2$   
 $r^2 + 144 = (r+8)(r+8)$   
 $r^2 + 144 = r^2 + 16r + 64$   
 $-64 = r^2 + 16r + 64 - 64$   
 $-64 = r^2 + 16r$   
 $80 = 16r$   
 $5 = r$
- inscribed angle  
 $x = \frac{140}{2}$   
 $x = 70^\circ$

Apr 29-2:59 PM

**DAILY HOMEWORK QUIZ** DLT  
 For use after Lesson 11.3, pages 601-607

Find the measure.

- $m\widehat{BC} = 55^\circ$
- $m\widehat{AC} = 130^\circ$
- $m\angle BED = 95^\circ$
- Find the length of  $\widehat{CD}$ . Round your answer to the nearest hundredth.  
 $\frac{70}{360} \cdot 2\pi r$   
**2.09cm**

Apr 30-8:10 AM

10.7 Equations of Circles

**STANDARD EQUATION OF A CIRCLE**

In the coordinate plane, the standard equation of a circle with center at  $(h, k)$  and radius  $r$  is

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

x-coordinate of the center      y-coordinate of the center

May 10-11:34 AM

Write an equation of the circle.

EX 1

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

Center  $(h, k)$

$x^2 + y^2 = 4^2$   
 $x^2 + y^2 = 16$

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EX 2 Write equation of circle with center  $(2, -1)$  and radius 3.

$(h, k)$        $r = 3$   
 $(x-h)^2 + (y-k)^2 = r^2$   
 $(x-2)^2 + (y+1)^2 = 9$

Apr 15-9:50 AM

Draw Circle. Label Center

EX 3  $(x-2)^2 + (y+3)^2 = 16$   
 $(x-h)^2 + (y-k)^2 = r^2$   
 $(2, -3)$   
 $\sqrt{r^2} = 16$   
 $r = 4$

EX 4  $x^2 + (y-1)^2 = 9$   
 Center  $(h, k)$   
 $(0, 1)$   
 $r^2 = 9$   
 $r = 3$

Steps: Plot center  
 - Count radius up, down, left, right  
 - 4 points connect

May 9-11:02 AM

Write the center and radius

$(h, k)$

1.  $(x - 4)^2 + (y + 5)^2 = 16$   $(4, -5)$   $r^2 = 16$   $r = 4$

2.  $(x + 2)^2 + (y - 6)^2 = 49$   $(-2, 6)$   $r^2 = 49$   $r = 7$

3.  $x^2 + (y + 7)^2 = 9$   $(0, -7)$   $r^2 = 9$   $r = 3$

Write the equation of the circle  $(x-h)^2 + (y-k)^2 = r^2$

4.  $C(-3, 4)$   $r = 5$   $(x+3)^2 + (y-4)^2 = 25$

5.  $C(2, 5)$   $r = 8$   $(x-2)^2 + (y-5)^2 = 64$

6.  $C(-6, 0)$   $r = 10$   $(x+6)^2 + (y+0)^2 = 100$

Hw #11  
 $(x+4)^2 + (y-4)^2 = 25$

Apr 30-8:14 AM

Hw  
Pg 579, #3-14

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