

Bell Ringer Soh Cah Toa
do #1 and #2

Tuesday 4/9

1. A kite is flying 95 ft above the ground. The length of the string to the kite is 120 ft, measured from the ground. Find the angle, to the nearest degree, that the string makes with the ground.



$$\frac{\sin \theta}{\sin 1} = \frac{95}{120}$$

$$\theta = \sin^{-1}(95/120) = 52^\circ$$

2. An airplane pilot sights a life raft at a 31° angle of depression. The airplane's altitude is 5500 ft. What is the airplane's horizontal distance d from the raft?



$$x \tan 31 = \frac{5,500}{\tan 31}$$

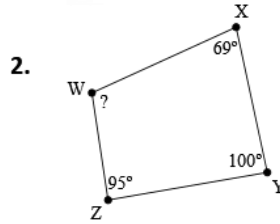
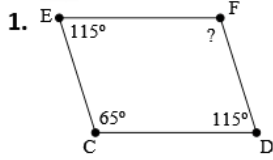
$$x = 9,154 \text{ ft}$$

3. In a sightseeing boat near the base of the Horseshoe Falls at Niagara Falls, a person estimates the angle of elevation to the top of the falls to be 35°. If the Horseshoe Falls are 173 feet high, what is the distance from the boat to the base of the falls?

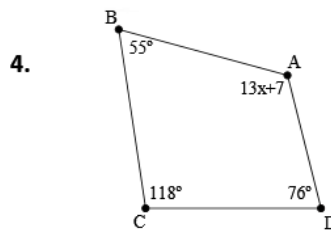
due tomorrow - questions?

Name _____ Hour _____ 12.9 Inscribed Quadrilaterals and Triangles

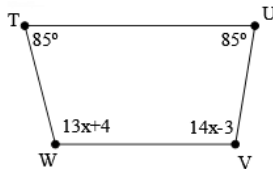
1-2. Find the measure of each indicated angle.



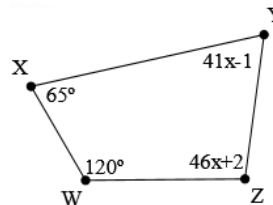
3-4. Solve for x



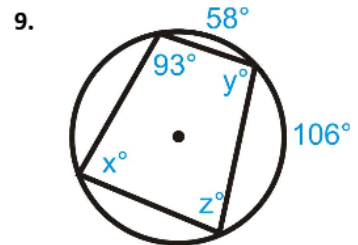
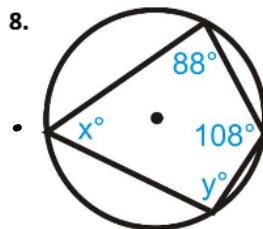
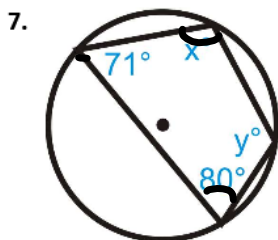
5. Find the $m\angle V$.

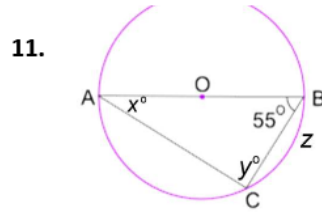
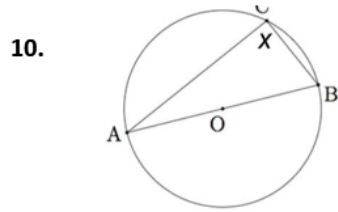


6. Find the $m\angle Z$.

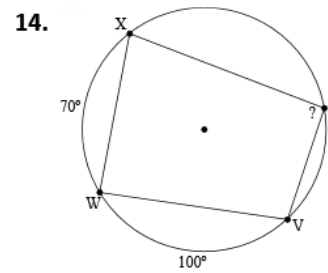
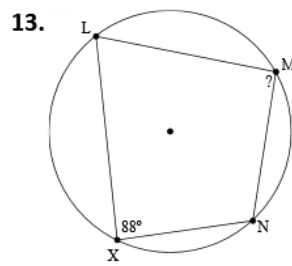
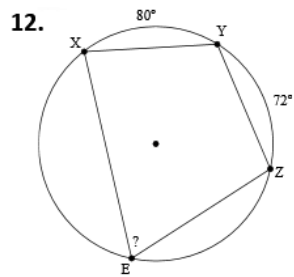


7-11. Find the measure of x, y and z in the scribed quadrilaterals.

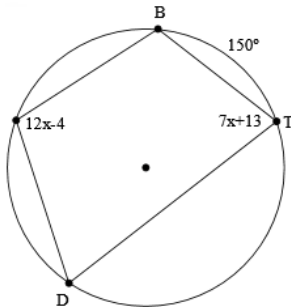




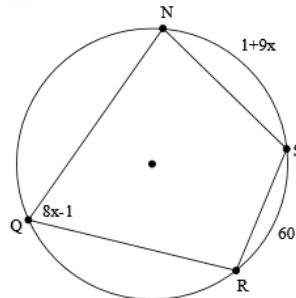
12-14. Find the measure of the arc or angle.



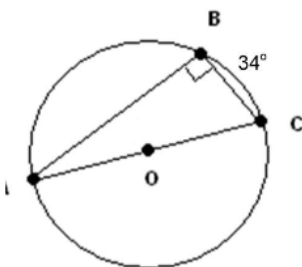
15. Find $m\widehat{DB}$.



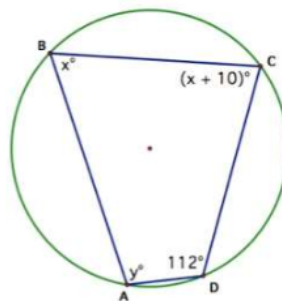
16. Find $m\widehat{NS}$.



17. Find $m\angle BCA$



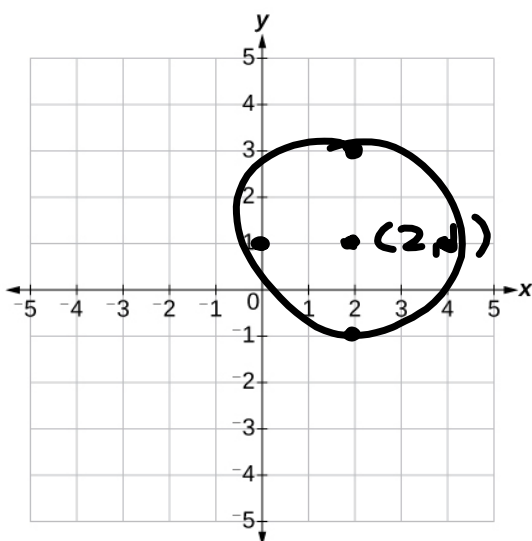
18. Find x and y .



What information do you need in order to graph a circle?

center
radius

-



Equation of a Circle:

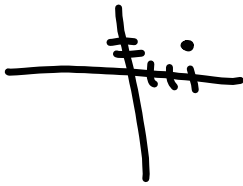
$$(x - \underline{h})^2 + (y - \underline{k})^2 = \underline{r^2}$$

(h, k) = center r = radius

Write the equation of a circle centered at $(\underline{3}, \underline{2})$ with a radius of $\underline{4}$

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

$$\rightarrow (\underline{x-3})^2 + (\underline{y-2})^2 = 16$$



Write the equation of a circle centered at $(\overset{h}{0}, \overset{k}{-8})$ with a radius of $\overset{r}{2}$

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

$$(x - \underline{0})^2 + (y - \underline{-8})^2 = 2^2$$

$$x^2 + (y + 8)^2 = 4$$

-

..

Write the equation of a circle centered at $(-1, 6)$ with a radius of $\sqrt{5}$

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

$$(x - (-1))^2 + (y - 6)^2 = (\sqrt{5})^2$$

$$(x + 1)^2 + (y - 6)^2 = 5$$

Write the equation of a circle centered at the origin with a radius of $\sqrt{8}$

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

$(0, 0)$

$$x^2 + y^2 = 8$$



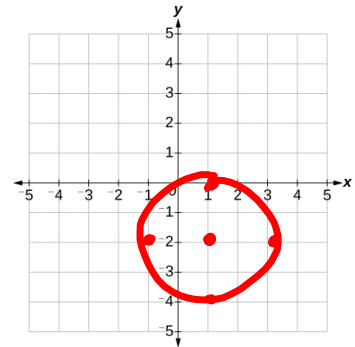
Identify the center and radius of the circle

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

$$(\underline{x - 1})^2 + (\underline{y - (-2)})^2 = \sqrt{4}$$

Center: $(1, -2)$

Radius: 2



Identify the center and radius of the circle

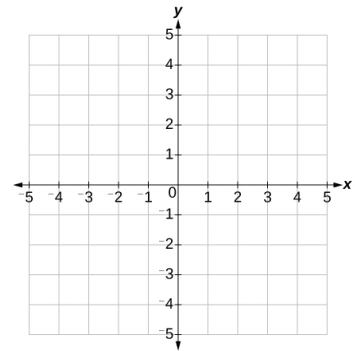
$$(x - h)^2 + (y - k)^2 = r^2$$

$$x^2 + (y - \cancel{2})^2 = 16$$

$y - (2)$

Center: $(0, 2)$

Radius: 4



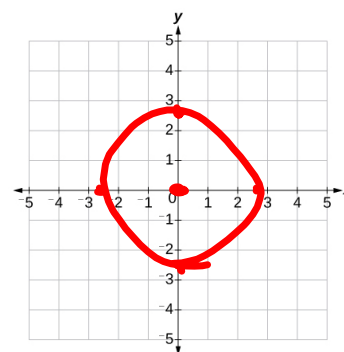
Identify the center and radius of the circle

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

$$x^2 + y^2 = \sqrt{7}$$

Center: $(0, 0)$

Radius: $\sqrt{7} \approx 2.6$



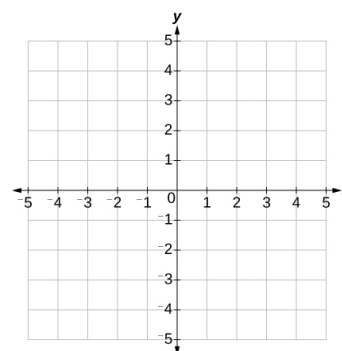
Identify the center and radius of the circle

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

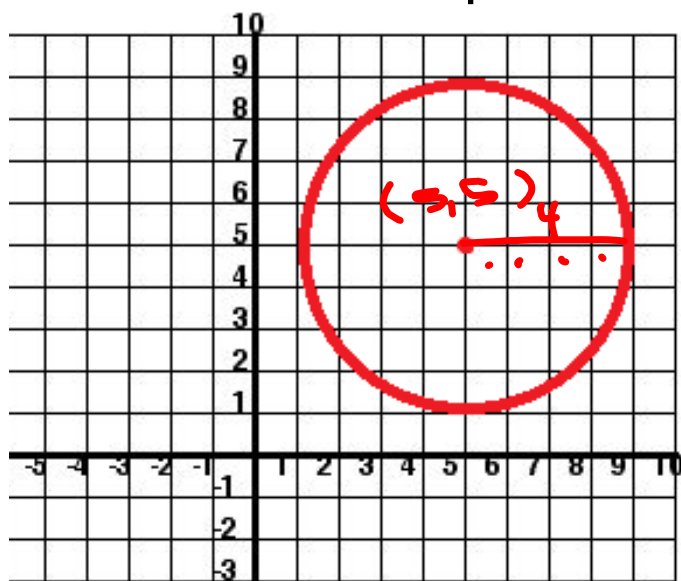
$$(x + 3)^2 + (y - 3)^2 = 3$$

Center: $(-3, 3)$

Radius: $\sqrt{3} \approx 1.7$



Write the equation of the circle

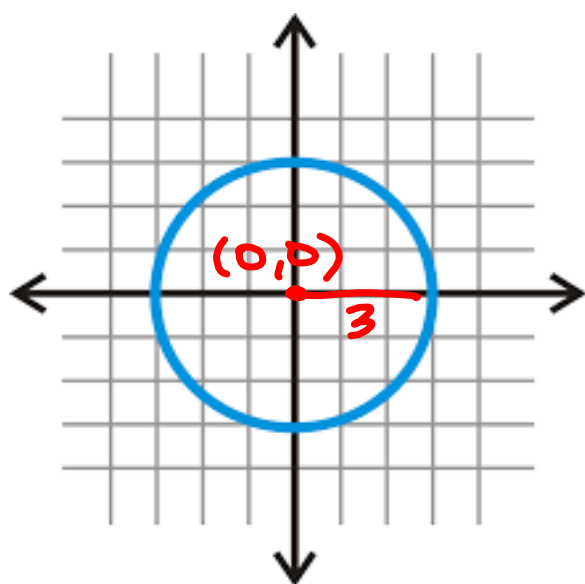


$$(x - h)^2 + (y - k)^2 = r^2$$

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

Write the equation of the circle

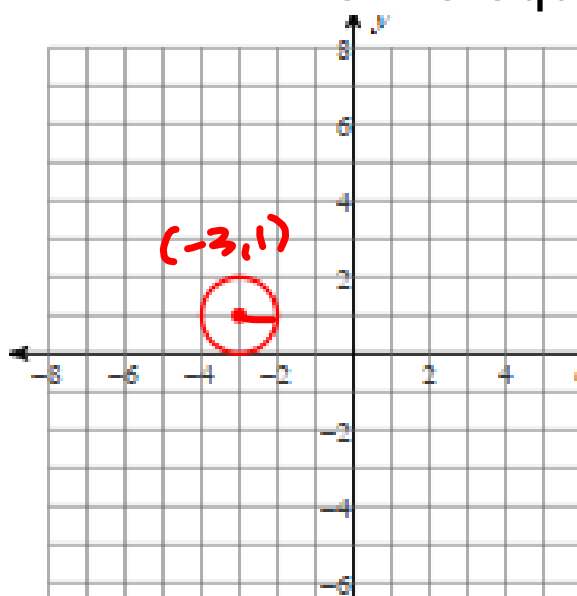
$$(x - h)^2 + (y - k)^2 = r^2$$



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

$$x^2 + y^2 = 9$$

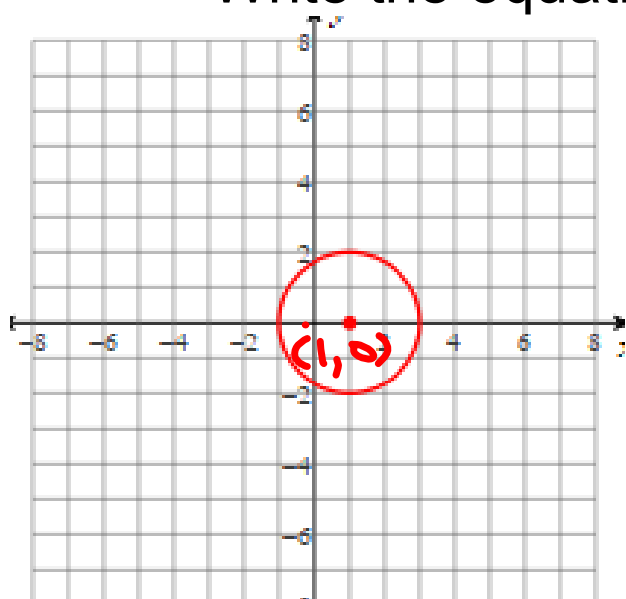
Write the equation of the circle



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

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

Write the equation of the circle



$$(x - h)^2 + (y - k)^2 = r^2$$
$$(x - 1)^2 + y^2 = 4$$

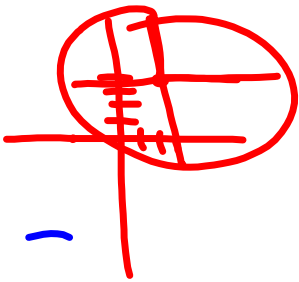
Is the point $(-3, 4)$ on the circle

$$(-3 - 2)^2 + (4 - 4)^2 = 25$$

$$(-5)^2 + (0)^2 = 25$$

$$25 + 0 = 25$$

✓



Is the point (5, 6) on the circle

$$(\underline{5} - 1)^2 + (\underline{6} + 2)^2 = 100$$

$$4^2 + 8^2$$

$$16 + 64 =$$

$$80 = 100$$

due Thursday

12.10

Equations of a Circle

Name _____ Date _____ Hour _____

Ready

Find the equation of the following circles:

1. Center (0, 0), radius of 6
2. Center (1, 2), radius of 3
3. Center (-1, -1), radius of 5
4. Center of (4, -2), radius of $\sqrt{50}$

Set

Place each equation (#5-20) in the corresponding cells of the table below. Make up your own equation for any empty cells.

Equations:

5. $(x - 2)^2 + (y - 1)^2 = 25$ $(2, 1) \quad r = 5$	6. $(x + 2)^2 + (y - 1)^2 - 100 = 0$ $x = -2$ $(-2, 1)$ $r = 10$
7. $x^2 + (y + 1)^2 = 25$	8. $(y - 1)^2 + (x - 2)^2 = 5$ $(2, 1)$ $r = \sqrt{5}$
9. $(x + 2)^2 + (y - 1)^2 = 10$	10. $x^2 + (y + 1)^2 = 100$
11. $(x - 2)^2 + (y - 1)^2 + 15 = 25$	12. $(x - 2)^2 + (1 + y)^2 = 100$
13. $(y + 1)^2 + x^2 = 10$	14. $(x - 2)^2 + (y + 1)^2 = 10$
15. $(x - 2)^2 + (y + 1)^2 + 4 = 9$	16. $(y - 1)^2 + (x + 2)^2 = 25$
17.	18.
19.	20.

Categorizing Equations

	Center at (2,1)	Center at (2,-1)	Center at (0,-1)	Center at (2,1)
Radius of $\sqrt{5}$				
Radius of $\sqrt{10}$				
Radius of 5	# 5			
Radius of 10				# 6

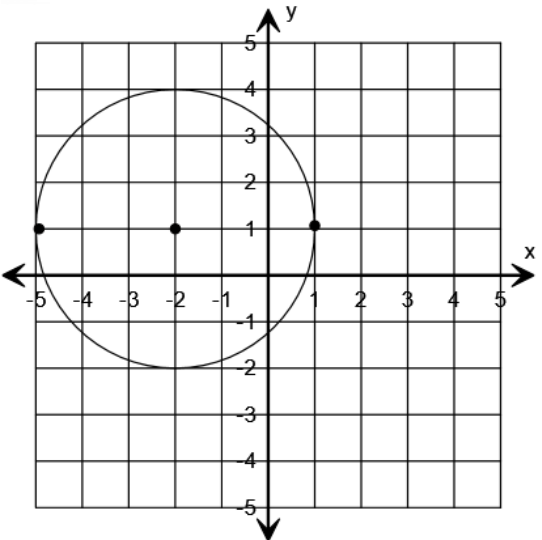
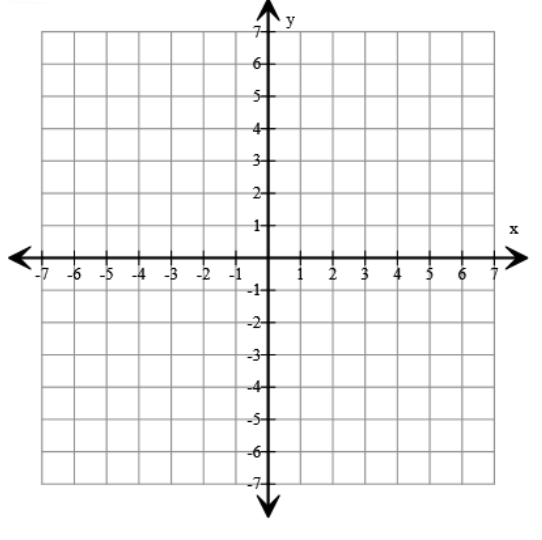
Go!

Complete the missing entries in the table.

Equation	Equation
21. $x^2 + y^2 = 25$	22. $x^2 + (y-3)^2 = 25$
Graph	Graph



<i>21 cont...</i> Center, Point on Circle	<i>22 cont...</i> Center, Point on Circle
Center (__, __) Point (__, __)	<u>Center (0,3)</u> <u>Point (5,3)</u>
Three Points on Circle	Three Points on Circle

Equation	Equation
23.	24.
Graph	Graph
	
Center, Point on Circle	Center, Point on Circle
Center (__, __) Point (__, __)	Center (__, __) Point (__, __)
Three Points on Circle	Three Points on Circle
	(7, 8) (9, 4) (-1, 4)

