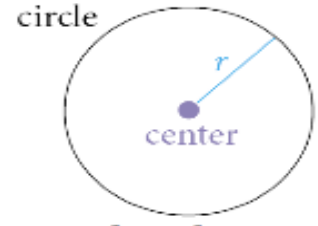


Guided Notes: Equations of Circles

A circle is the _____



Equation of Circle:

A circle centered at _____

(x, y) is _____

(h, k) is _____ $r =$ _____

Examples:

Find the Center and the Radius

1. $(x + 1)^2 + (y - 3)^2 = 25$

2. $x^2 + (y + 3)^2 = 9$

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

4. $x^2 + y^2 = 144$

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

1. Center $(-4, 3)$, radius 4

2. Center $(0, 0)$, radius = 3

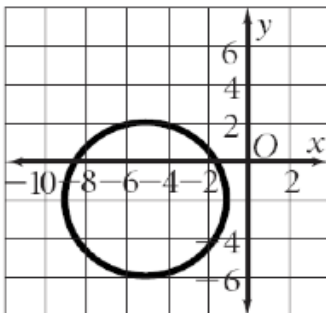
3. Center $(-1, 0)$, radius = 6

4. Center $(0, -3)$ radius = 5

5. Center $(-2, 6)$, radius = 4

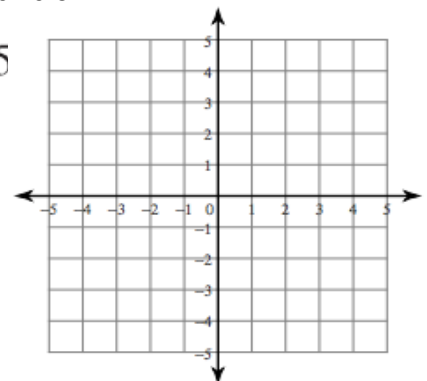
6. Center $(1, -5)$, radius = 2.5

1. Writing an Equation from a graph:



2. Graph the following circle.

$$(x + 1)^2 + (y - 3)^2 = 25$$



Use Completing the Square to find the center and the radius!

1. $x^2 + y^2 + 6y - 27 = 0$

2. $x^2 + y^2 - 8x - 4y + 19 = 0$

3. $x^2 + 2x + y^2 + 14y - 31 = 0$

4. $x^2 - 10x + y^2 + 4y - 7 = 0$

Find the area and circumference for questions 3 and 4.

Formulas: Area =

Circumference =

3. Radius = _____

4. Radius = _____

Area=

Area =

Circumference=

Circumference=