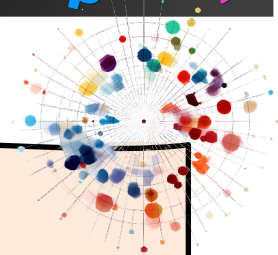


Name: _____

Standard Equation of a Circle



Equation of a Circle

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

Where (h,k) are the coordinates of the center point and r is the radius.

Part I: Identify the coordinates of the center point and the length of the radius of each circle.

1.) $(x - 3)^2 + (y - 4)^2 = 25$

2.) $(x + 7)^2 + (y - 1)^2 = 49$

3.) $x^2 + y^2 = 100$

4.) $(x - 8)^2 + (y + 5)^2 = 1$

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

6.) $x^2 + (y + 10)^2 = 64$

7.) $(x + 2)^2 + (y - 3)^2 = 196$

8.) $(x + 6)^2 + y^2 = 81$

Part II: Write the standard equation for each circle given it's radius and center point.

9.) $r = 7$, center: $(2, 3)$

10.) $r = 3$, center: $(-4, 11)$

11.) $r = 12$, center: $(0, 4)$

12.) $r = 10$, center: $(-11, -16)$

13.) $r = 1$, center: $(0, 0)$

14.) $r = 4$, center: $(-8, -8)$

15.) $r = 15$, center: $(5, -4)$

16.) $r = 5$, center: $(-7, 0)$

ANSWER KEY

Part I: Identify the coordinates of the center point and the length of the radius of each circle.

1.) $(x - 3)^2 + (y - 4)^2 = 25$

$r = 5$, center: $(3, 4)$

2.) $(x + 7)^2 + (y - 1)^2 = 49$

$r = 7$, center: $(-7, 1)$

3.) $x^2 + y^2 = 100$

$r = 10$, center: $(0, 0)$

4.) $(x - 8)^2 + (y + 5)^2 = 1$

$r = 1$, center: $(8, -5)$

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

$r = 2$, center: $(-4, -4)$

6.) $x^2 + (y + 10)^2 = 64$

$r = 8$, center: $(0, -10)$

7.) $(x + 2)^2 + (y - 3)^2 = 196$

$r = 14$, center: $(-2, 3)$

8.) $(x + 6)^2 + y^2 = 81$

$r = 9$, center: $(-6, 0)$

Part II: Write the standard equation for each circle given its radius and center point.

9.) $r = 7$, center: $(2, 3)$

$(x - 2)^2 + (y - 3)^2 = 49$

10.) $r = 3$, center: $(-4, 11)$

$(x + 4)^2 + (y - 11)^2 = 9$

11.) $r = 12$, center: $(0, 4)$

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

12.) $r = 10$, center: $(-11, -16)$

$(x + 11)^2 + (y + 16)^2 = 100$

13.) $r = 1$, center: $(0, 0)$

$x^2 + y^2 = 1$

14.) $r = 4$, center: $(-8, -8)$

$(x + 8)^2 + (y + 8)^2 = 16$

15.) $r = 15$, center: $(5, -4)$

$(x - 5)^2 + (y + 4)^2 = 225$

16.) $r = 5$, center: $(-7, 0)$

$(x + 7)^2 + y^2 = 25$