

Circle Equations

Write an equation for each situation:

1.

Center: $(-11, -8)$

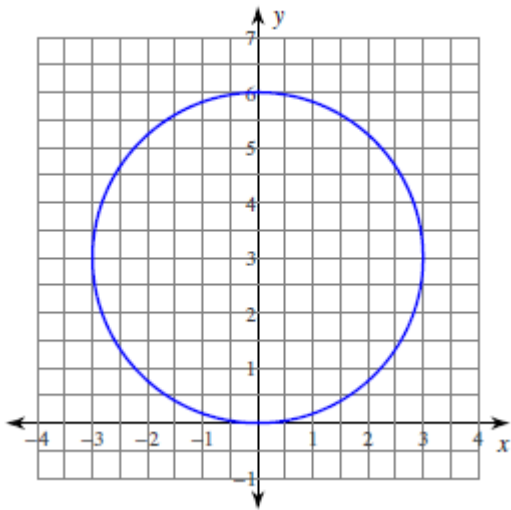
Radius: 4

2.

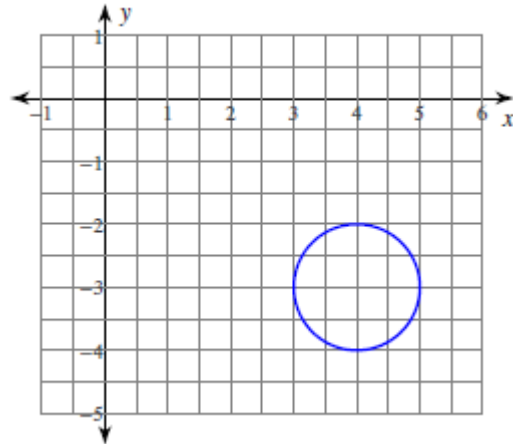
Center: $(-6, -15)$

Radius: $\sqrt{5}$

3.



4.



5.

$$(x - 16)^2 + (y - 6)^2 = 1$$

Translated 4 left, 2 up

6.

$$(x + 5)^2 + (y + 7)^2 = 36$$

Translated 5 left, 4 down

7.

$$8x + x^2 - 2y = 64 - y^2$$

8.

$$137 + 6y = -y^2 - x^2 - 24x$$

<p>9.</p> $x^2 + y^2 + 14x - 12y + 4 = 0$	<p>10.</p> $y^2 + 2x + x^2 = 24y - 120$
<p>11.</p> <p>Ends of a diameter: $(-17, -9)$ and $(-19, -9)$</p>	<p>12.</p> <p>Center: $(14, 17)$ Point on Circle: $(15, 17)$</p>
<p>13.</p> <p>Center lies on the x-axis Tangent to $x = 7$ and $x = -13$</p>	<p>14.</p> <p>Center: $(-5, 12)$ Circumference: 8π</p>
<p>15.</p> $x^2 + y^2 + 14x + 12y + 76 = 0$ <p>Translated 2 right, 4 down</p>	<p>16.</p> $4y + y^2 = -28x - x^2 - 191$ <p>Translated 4 right</p>

Circle Equations (Answers)

Write an equation for each situation:

1.

Center: $(-11, -8)$

Radius: 4

$$(x + 11)^2 + (y + 8)^2 = 16$$

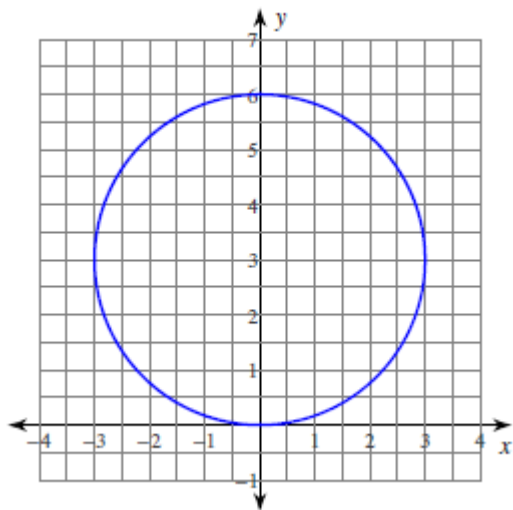
2.

Center: $(-6, -15)$

Radius: $\sqrt{5}$

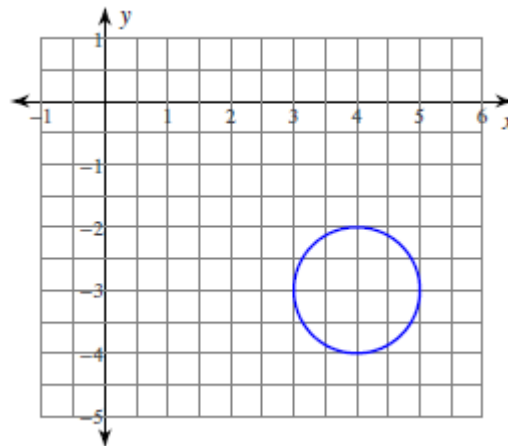
$$(x + 6)^2 + (y + 15)^2 = 5$$

3.



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

4.



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

5.

$$(x - 16)^2 + (y - 6)^2 = 1$$

Translated 4 left, 2 up

$$(x - 12)^2 + (y - 8)^2 = 1$$

6.

$$(x + 5)^2 + (y + 7)^2 = 36$$

Translated 5 left, 4 down

$$(x + 10)^2 + (y + 11)^2 = 36$$

7.

$$8x + x^2 - 2y = 64 - y^2$$

$$(x + 4)^2 + (y - 1)^2 = 81$$

8.

$$137 + 6y = -y^2 - x^2 - 24x$$

$$(x + 12)^2 + (y + 3)^2 = 16$$

<p>9.</p> $x^2 + y^2 + 14x - 12y + 4 = 0$ $(x + 7)^2 + (y - 6)^2 = 81$	<p>10.</p> $y^2 + 2x + x^2 = 24y - 120$ $(x + 1)^2 + (y - 12)^2 = 25$
<p>11.</p> <p>Ends of a diameter: $(-17, -9)$ and $(-19, -9)$</p> $(x + 18)^2 + (y + 9)^2 = 1$	<p>12.</p> <p>Center: $(14, 17)$ Point on Circle: $(15, 17)$</p> $(x - 14)^2 + (y - 17)^2 = 1$
<p>13.</p> <p>Center lies on the x-axis Tangent to $x = 7$ and $x = -13$</p> $(x + 3)^2 + y^2 = 100$	<p>14.</p> <p>Center: $(-5, 12)$ Circumference: 8π</p> $(x + 5)^2 + (y - 12)^2 = 16$
<p>15.</p> $x^2 + y^2 + 14x + 12y + 76 = 0$ <p>Translated 2 right, 4 down</p> $(x + 5)^2 + (y + 10)^2 = 9$	<p>16.</p> $4y + y^2 = -28x - x^2 - 191$ <p>Translated 4 right</p> $(x + 10)^2 + (y + 2)^2 = 9$