THIRD SPACE LEARNING

Equation of a circle Worksheet

Algebra

Grades 6 to 8

Skill Questions

Name: .....
Date: .....

1 Write the equation of a circle that has its center at point (0, 0) and a radius of 4 units.

Answer

2 Write the equation of a circle that has its center at the origin and a radius length of 1 unit.

Answer

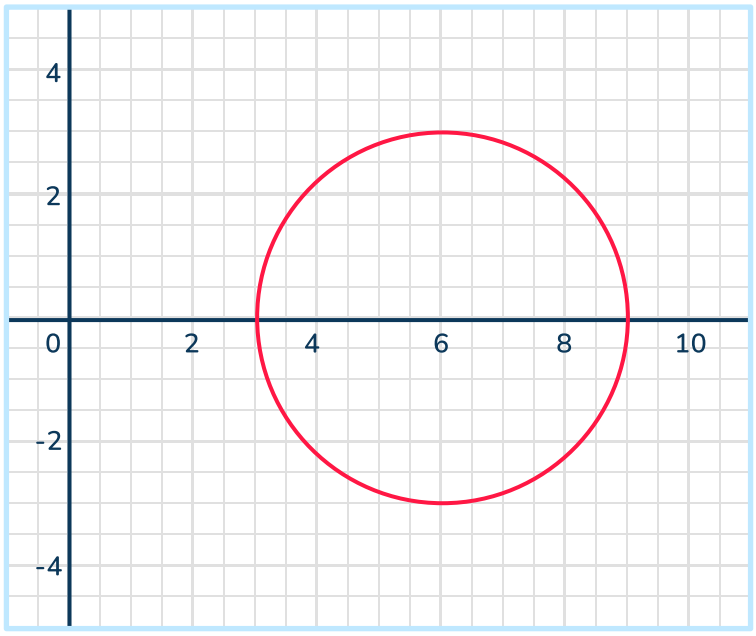
3 Write the equation of a circle that has its center at point (5, 2) and a radius length of 5 units.

Answer

4 Write the equation of a circle that has its center at point (-1,0) and a radius length of 7 units.

Answer

5 Write the equation of the circle that is graphed below.

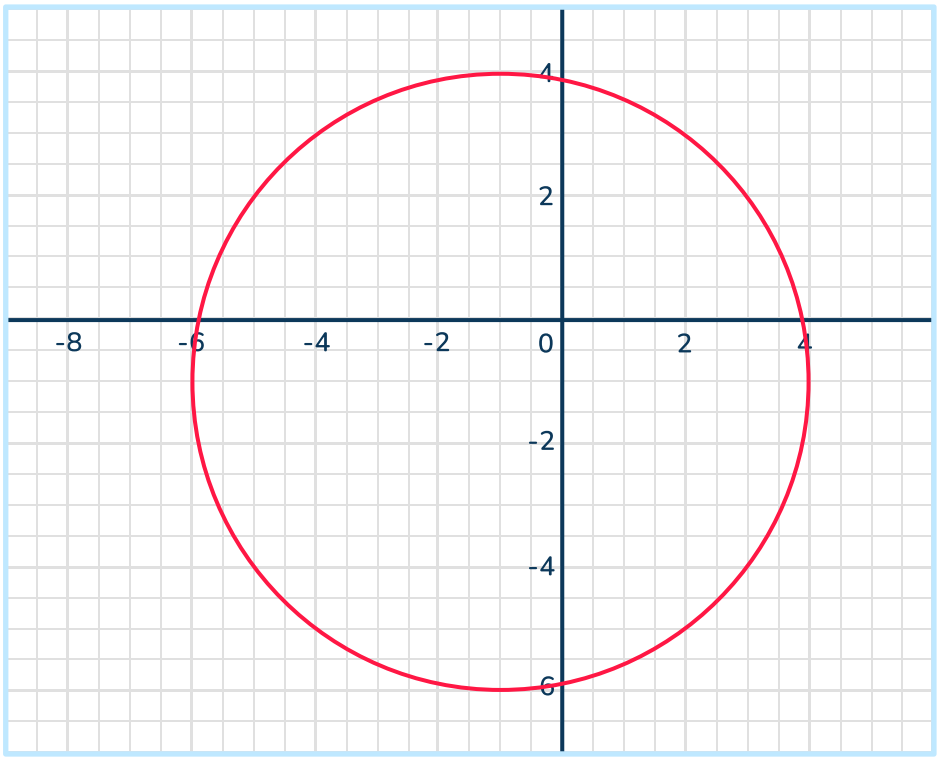


Answer

6 Determine the coordinate of the center of the circle and the radius length with the given equation, $x^2 + (y - 1)^2 = 36$

Answer

7 Write the equation of a circle that is graphed below.



Answer

8 Sketch the circle that is represented by the equation,

$x^2 + y^2 = 1$

9 Sketch the circle that is represented by the equation,

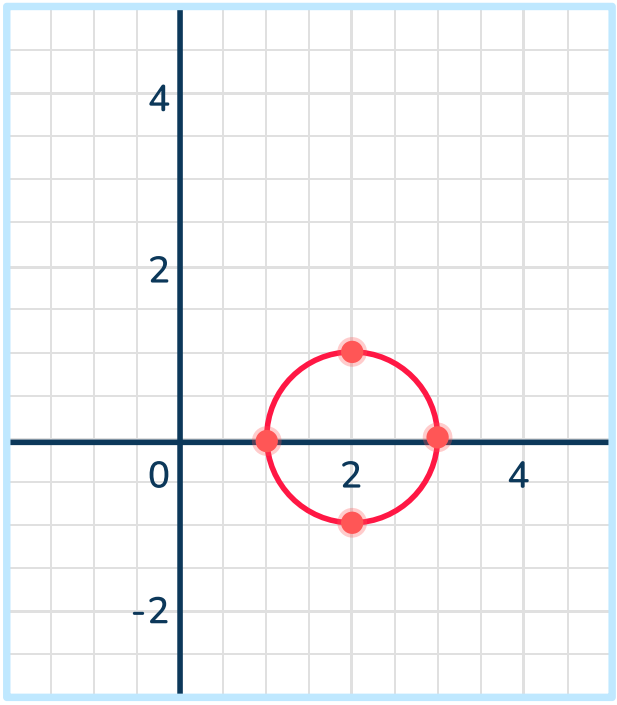
$$(x+3)^2+y^2=4$$

10 Write the equation of a circle with center at (-6, 9) and radius length 10 units.

Answer

Applied Questions

11 Noah graphed the equation of the circle $(x+2)^2+y^2=1$ on the graph below. Is his sketch of the circle correct?



Answer

12 Write the equation of a circle that has radius with endpoints at (-4, 1) and (-4, 3).

Answer

13 Write the equation of a circle that has a diameter with endpoints (1, -2) and (-3, -2).

Answer

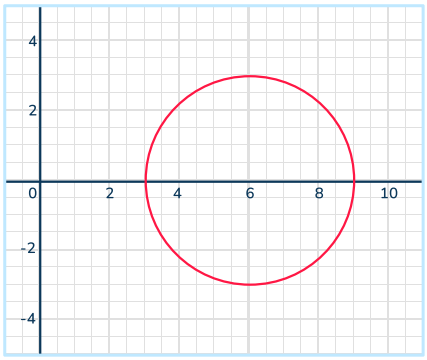
14 Write the equation of circle with center at point (-1, 7) and diameter length of 13 units.

Answer

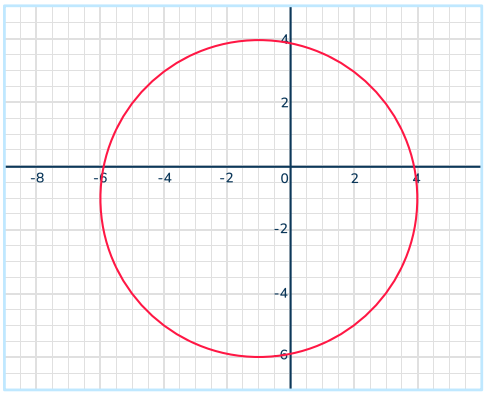
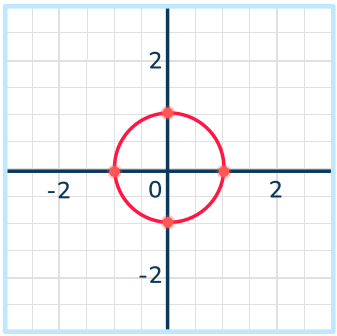
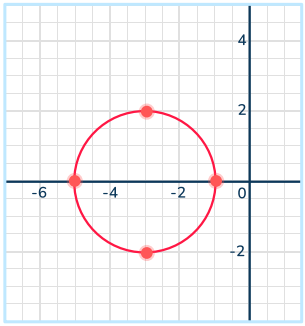
15 Write the equation of a circle with center (2, 7) and has an area of 16Π.

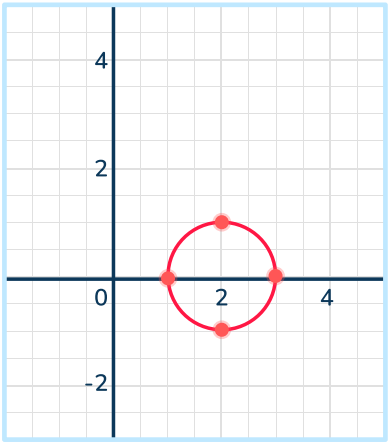
Answer

Answers

Question number	Question	Answers	Standard
1	Write the equation of a circle that has its center at point (0, 0) and a radius of 4 units.	$x^2 + y^2 = (4)^2$ $x^2 + y^2 = 16$	HSG.GPE.A.1
2	Write the equation of a circle that has its center at the origin and a radius length of 1 unit.	$x^2 + y^2 = 1^2$ $x^2 + y^2 = 1$	HSG.GPE.A.1
3	Write the equation of a circle that has its center at point (5, 2) and a radius length of 5 units.	$(x-5)^2 + (y-2)^2 = 5^2$ $(x-5)^2 + (y-2) = 25$	HSG.GPE.A.1
4	Write the equation of a circle that has its center at point (-1,0) and a radius length of 7 units.	$(x+1)^2 + (y-0)^2 = 7^2$ $(x+1)^2 + y^2 = 49$	HSG.GPE.A.1
5	Write the equation of the circle that is graphed below. 	The center of the circle is the coordinate (6, 0) and the radius is 3 units long. So, the equation is: $(x-6)^2 + y^2 = 3^2$ $(x-6)^2 + y^2 = 9$	HSG.GPE.A.1
6	Determine the coordinate of the center of the circle and the radius length with the given equation, $x^2 + (y-1)^2 = 36$	Center = (0, 1) Radius = $\sqrt{36}$ = 6 units	HSG.GPE.A.1

Equation of a circle Worksheet | Grades 6 to 8 | Answers

Question number	Question	Answers	Standard
7	Write the equation of a circle that is graphed below. 	The center of the circle is (-1, -1) and the radius length is 5 units. So, the equation is: $(x+1)^2+(y+1)^2=5^2$ $(x+1)^2+(y+1)^2=25$	HSG.GPE.A.1
8	Sketch the circle that is represented by the equation, $x^2+y^2=1$		HSG.GPE.A.1
9	Sketch the circle that is represented by the equation, $(x+3)^2+y^2=4$		HSG.GPE.A.1
10	Write the equation of a circle with center at (-6, 9) and radius length 10 units.	$(x+6)^2+(y-9)^2=10^2$ $(x+6)^2+(y-9)^2=100$	HSG.GPE.A.1

Question number	Question	Answers	Standard
11	Noah graphed the equation of the circle $(x+2)^2+y^2=1$ on the graph below. Is his sketch of the circle correct? 	Noah graphed the equation incorrectly because the center of the circle should be at the point (-2, 0) not (2, 0). The equation of a circle is $(x-h)^2+(y-k)^2=r^2$ where (h,k) is the center of the circle. $(x+2)^2+y^2=1$ $(x-(-2))^2+y^2=1$	HSG.GPE.A.1
12	Write the equation of a circle that has radius with endpoints at (-4, 1) and (-4, 3).	Possible answer: $(x+4)^2+(y-1)^2=2^2$ $(x+4)^2+(y-1)^2=4$	HSG.GPE.A.1
13	Write the equation of a circle that has a diameter with endpoints (1, -2) and (-3, -2).	The center of the circle is the midpoint of the diameter which is (-1, -2). The midpoint is 2 units from the end point, which means the radius is 2 units. So, the equation is: $(x+1)^2+(y+2)^2=2^2$ $(x+1)^2+(y+2)^2=4$	HSG.GPE.A.1
14	Write the equation of circle with center at point (-1, 7) and diameter length of 13 units.	$(x+1)^2+(y-7)^2=(6.5)^2$ $(x+1)^2+(y-7)^2=42.25$	HSG.GPE.A.1

Question number	Question	Answers	Standard
15	Write the equation of a circle with center (2, 7) and has an area of 16Π.	Since the area of the circle is 16Π, the radius length is the 16 = 4 So, the equation of the circle is: $(x-2)^2+(y-7)^2=4^2$ $(x-2)^2+(y-7)^2=16$	HSG.GPE.A.1

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