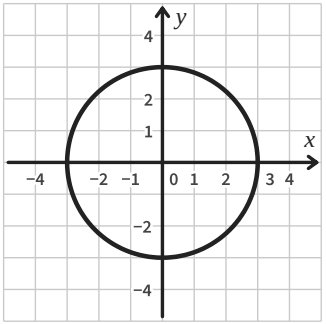
Equation of a circle

1

Write the equation of the circle.



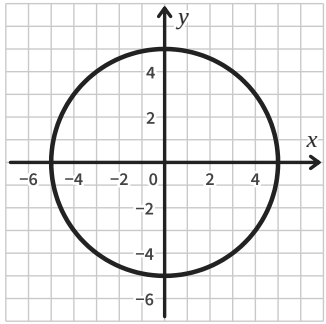
$r =$ 3

$r^2 =$ 9

Answer _____

2

Write the equation of the circle.



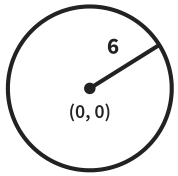
$r =$ 5

$r^2 =$

Answer _____

3

A circle has centre (0, 0) and radius 6.
Write its equation.



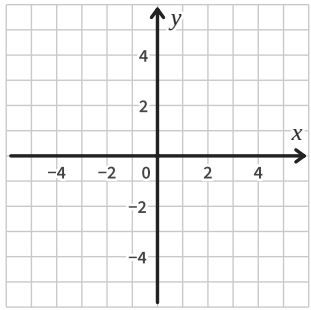
$r =$

$r^2 =$

Answer _____

4 *Notice the change!*

The circle $x^2 + y^2 = 16$.
Write down the radius. Mark where the circle crosses each axis.

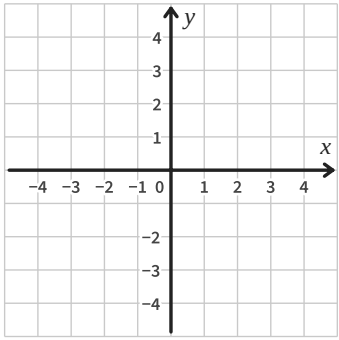


$r^2 =$ 16

$r =$ _____

5

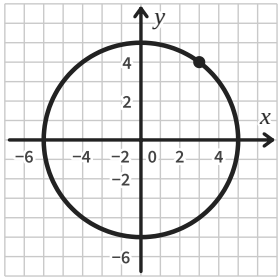
Draw the circle $x^2 + y^2 = 9$.



$r =$ _____

6 *Notice the change!*

Is **(3, 4)** inside, on or outside the circle $x^2 + y^2 = 25$?

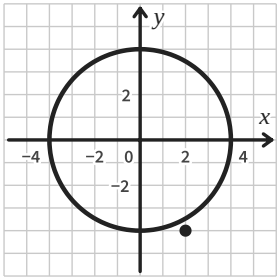


$3^2 + 4^2 =$

Answer _____

7

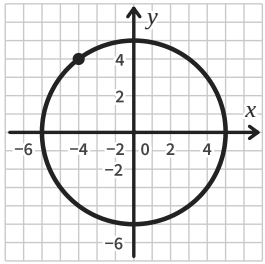
Is **(2, −4)** inside, on or outside the circle $x^2 + y^2 = 16$?



Answer _____

8

Mia says **(−3, 4)** is inside the circle $x^2 + y^2 = 25$ because $-9 + 16 = 7$.
Explain her mistake.

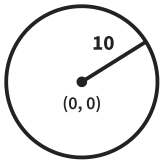


Answer _____

Equation of a circle *further practice*

9

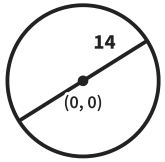
A circle has centre (0, 0) and radius 10. Write its equation.



Answer _____

10

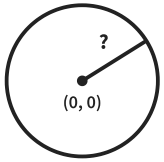
A circle has centre (0, 0) and diameter 14. Write its equation.



Answer _____

11

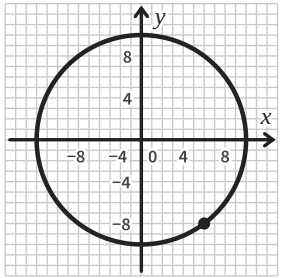
A phone mast at (0, 0) reaches every point inside the circle $x^2 + y^2 = 64$, in km. How far does it reach?



Answer _____

12

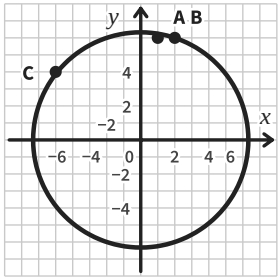
Is the point (6, −8) inside, on or outside the circle $x^2 + y^2 = 100$?



Answer _____

13

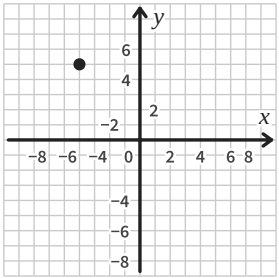
Is each point A (1, 6), B (2, 6) and C (−5, 4) inside, on or outside the circle $x^2 + y^2 = 40$?



Answer _____

14

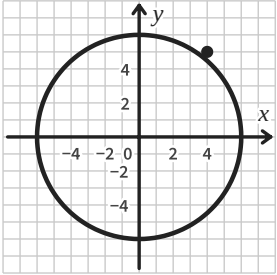
A circle has centre (0, 0) and goes through the point (−4, 5). Write its equation.



Answer _____

15

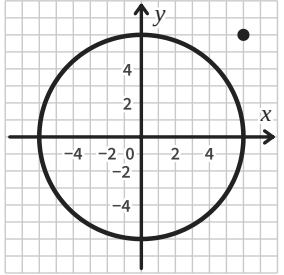
A sprinkler at (0, 0) waters the circle $x^2 + y^2 = 36$, in metres. Is a plant at (4, 5) watered? Show how you know.



Answer _____

16

Ben says (6, 6) is on the circle $x^2 + y^2 = 36$ because the radius is 6. Is he right? Explain.



Answer _____