

Notes

1) What is the equation of the circle with the following information:

center: $(0, 1)$

point on the circle: $(3, 5)$

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

$$(3-0)^2 + (5-1)^2 = r^2 \quad \leftarrow \text{Substitute and Solve for radius}$$

$$3^2 + 4^2 = r^2$$

$$9 + 16 = r^2$$

$$25 = r^2$$

$$5 = r$$

Equation:

$$(x-0)^2 + (y-1)^2 = 25$$

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

2) Write the equation of the circle:
center: $(-43, 5)$

point on the circle: $(-34, 17)$

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

$$(-34 - (-43))^2 + (17-5)^2 = r^2 \quad \leftarrow \text{Substitute and solve for } r^2$$

$$9^2 + 12^2 = r^2$$

$$81 + 144 = r^2$$

$$225 = r^2$$

$$15 = r$$

Equation:

$$(x+43)^2 + (y-5)^2 = 225$$