

## What's Going On?

**Checking In**

F.F.M.

**Minds on**

How Long?

**Action!**

Circle Up!

**Consolidation**

Equations and Radii

**Learning Goal - I will be able to determine the lengths of line segments algebraically.**

Minds on

F.F.M.

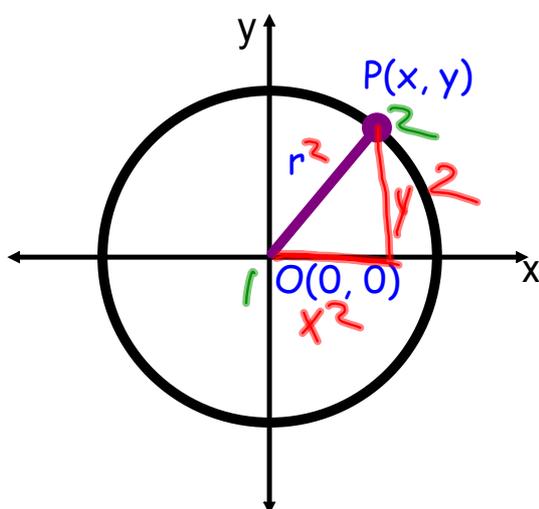
What is the length of the line segment with end points  $(-1.3, 6.7)$  and  $(-2.4, 8.9)$ ?

$x_1$     $y_1$   
 $x_2$     $y_2$

**Action!**

## Circle Up!

What's the general equation of a circle centered at the origin?



$$l = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

$$r = \sqrt{(x - 0)^2 + (y - 0)^2}$$

$$r = \sqrt{(x)^2 + (y)^2}$$

$$r^2 = \sqrt{x^2 + y^2}$$

$$r^2 = x^2 + y^2$$

## Consolidation

$$x^2 + y^2 = r^2$$

Determine the radius of a circle, with centre (0,0),  
and equation  $x^2 + y^2 = 36$

$$\sqrt{r^2} = \sqrt{36}$$

$$r = 6$$

## Consolidation

$$x^2 + y^2 = r^2$$

Determine the equation of a circle, with centre (0,0), that has a radius of 5

$$x^2 + y^2 = 25$$

Determine the equation of a circle through (-2, 3), centred at (0,0).

$$x^2 + y^2 = r^2$$

$$(-2)^2 + (3)^2 = r^2$$

$$4 + 9 = r^2$$

$$13 = r^2$$

$$x^2 + y^2 = 13$$

Centred at origin through

$$(-1, -3)$$

$$x^2 + y^2 = r^2$$

$$(-1)^2 + (-3)^2 = r^2$$

$$1 + 9 = r^2$$

$$r^2 = 10$$

$$x^2 + y^2 = 10$$

**Consolidation**

# Homework

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