

September 14, 2015

3 hours of Prep  
1 hour of class

4

Sep 14-10:58 AM

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

$$(x+3)^2 + (y-6)^2 = 4$$

$h = -3$        $k = +6$

$(-3, 6)$ ;  $r = 2$

$$(x+3)^2 = (x+3)(x+3) = x^2 + 6x + 9$$

$$(y-6)^2 = (y-6)(y-6) = y^2 - 12y + 36$$

$$x^2 + 6x + 9 + y^2 - 12y + 36 = 2$$

Sep 14-11:07 AM

Mid-Pl:  $\frac{x_1 + x_2}{2}$ ;  $\frac{y_1 + y_2}{2}$

Distance:  $\sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$

Sep 14-11:16 AM

Pythagorean Thm.

$$a^2 + b^2 = c^2$$

$a = x_2 - x_1$   
 $b = y_2 - y_1$

$$(x_2 - x_1)^2 + (y_2 - y_1)^2 = d^2$$

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

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

Sep 14-11:19 AM

Center:  $(-3, 1)$ ;  $r = 7$

$(-3, 1)$        $(4, 1)$

7 units

$$(x+3)^2 + (y-1)^2 = 49$$

Sep 14-11:18 AM

$P = (1, 1)$      $Q = (5, 9)$

Mid-Pl:  
 $x_1 = 1$ ;  $x_2 = 5$   
 $y_1 = 1$ ;  $y_2 = 9$

$x = \frac{1+5}{2} = 3$   
 $y = \frac{1+9}{2} = 5$

$$d = \sqrt{(5-1)^2 + (9-1)^2}$$

$$= \sqrt{2^2 + 4^2}$$

$$= \sqrt{4 + 16}$$

$$= \sqrt{20} = \sqrt{4 \cdot 5}$$

$$= 2\sqrt{5}$$


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$$d = \sqrt{(1-5)^2 + (1-9)^2}$$

$$= \sqrt{(-4)^2 + (-8)^2}$$

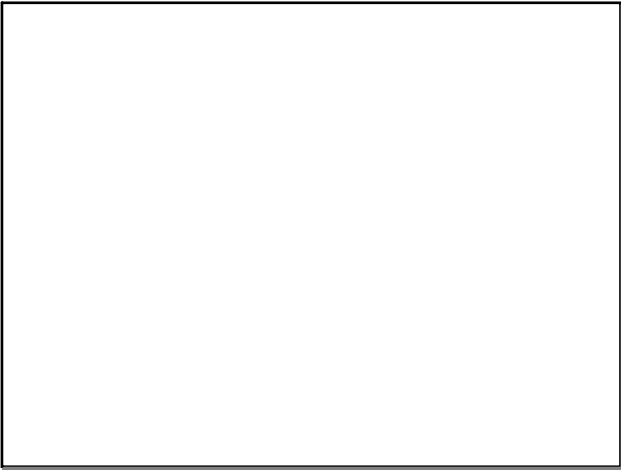
$$= \sqrt{4 + 16}$$

$$= \sqrt{20}$$

$$= 2\sqrt{5}$$

$(x-3)^2 + (y-5)^2 = (2\sqrt{5})^2$   
 $(x-3)^2 + (y-5)^2 = 20$

Sep 14-11:34 AM



Sep 14-11:43 AM