

Good morning: warm up in notebooks

Determine if the point $(-4, 2)$ lies on a circle whose diameter has endpoints $(-2, 14)$ and $(-6, 2)$.

$$\left(\frac{-2 + -6}{2}, \frac{14 + 2}{2} \right) \rightarrow (-4, 8)$$

$$\frac{(x + 4)^2 + (y - 8)^2 = r^2}{-2 \quad 14}$$

$$\begin{aligned} &4 + 36 \\ &\underline{40 = r^2} \\ &\sqrt{40} = r \end{aligned}$$

$$\frac{(x + 4)^2 + (y - 8)^2 = 40}{-4 \quad 2}$$

$$0 + 36 \neq 40 ?$$

No!

Reminders:

assess on Thurs/Fri

tutoring Wednesday

HW worksheet answers

1) $(x+8)^2 + (y-16)^2 = 9$

2) $(x+6)^2 + (y+4)^2 = 49$

3) $(x+9)^2 + (y-6)^2 = 64$ ✓

4) $(x-12)^2 + (y-11)^2 = 36$

5) $(x+14)^2 + (y+1)^2 = 25$

6) $(x+9)^2 + (y-5)^2 = 65$

7) $(x-8)^2 + (y-1)^2 = 10$

8) $(x-4)^2 + y^2 = 50$

9) $(x+6)^2 + (y+12)^2 = 34$

10) $x^2 + (y-8)^2 = 116$

3.) $(-9, 6)$

$(x+9)^2 + (y-6)^2 = 64$

$C = 16\pi = D \cdot \pi = 2\pi \cdot r$

$16 = D \Rightarrow r = 8$

5.) $(x+14)^2 + (y+1)^2 = r^2$

$25 = r^2$

Center? Radius?

$$x^2 + 10x + (y+9)^2 = 0$$

$$\frac{10}{2} = (5)^2 = 25$$

$$x^2 + 10x + 25 + (y+9)^2 = 0 + 25$$

$$(x+5)(x+5) + (y+9)^2 = 25$$

$$(x+5)^2 + (y+9)^2 = 25$$

$(-5, -9)$
rad: 5

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





Center? Radius?

$$x^2 + 136 = -16x + 22y - y^2$$

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

(1) gather all variable terms
on left.

Homework:

back of worksheet, #11-16

$$\boxed{x^2 + 16x} + \boxed{y^2 - 22y} = -136$$

\downarrow \downarrow

$$\left(\frac{16}{2}\right)^2 = 64 \quad \left(-\frac{22}{2}\right)^2 = 121$$

(2) Complete the
Square ... twice.

$$\underline{x^2 + 16x + 64} + y^2 - 22y + 121 = -136 + 64 + 121$$

$$(x+8)(x+8) + (y-11)(y-11) = 49$$

$$(x+8)^2 + (y-11)^2 = 49$$

center: $(-8, 11)$
rad: 7

Center? Radius?

$$-20y = 4x - y^2 - 40 - x^2$$

$$\boxed{x^2 - 4x} + \boxed{y^2 - 20y} = -40$$

$$\left(\frac{-4}{2}\right)^2 \rightarrow 4 \quad \left(\frac{-20}{2}\right)^2 \rightarrow (-10)^2 = 100$$

$$\boxed{x^2 - 4x + 4} + y^2 - 20y + 100 = -40 + 4 + 100$$

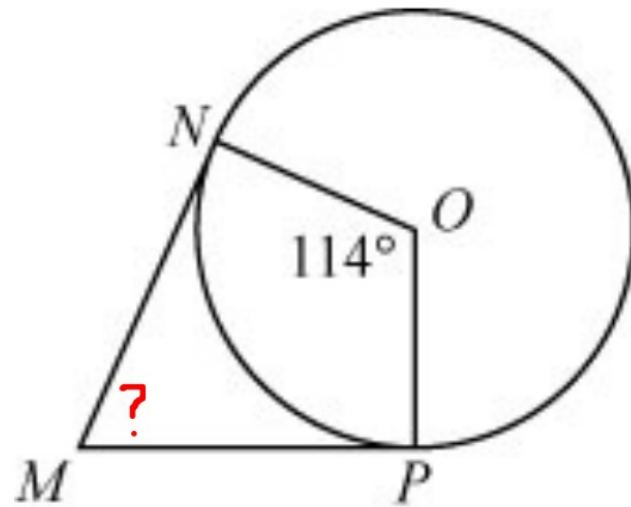
$$(x-2)(x-2) + (y-10)(y-10) = 64$$

$$(x-2)^2 + (y-10)^2 = 64$$

$$\boxed{(x-h)^2} + \boxed{(y-k)^2} = r^2$$

Center: (2, 10)
rad: 8

Preview of next class: sketch this into notes



Homework:
back of worksheet, #11-16

A blocks: be sure to use corrected problems

Spend remaining class time
working quietly on handout please!!!