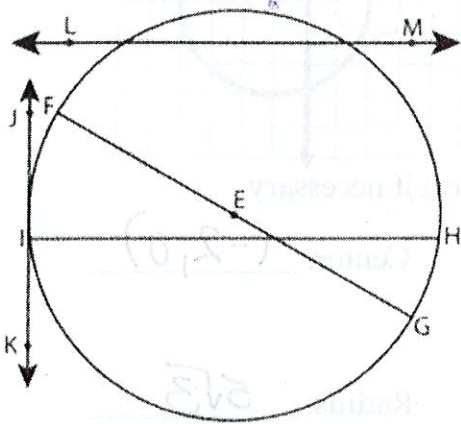


Unit 5 Honors Quiz Review

Name Key 519' Date _____

1. Use the picture below to answer the following.



A. Circle: ⊙E B. Radius: $\overline{EF}, \overline{EG}$ C. Diameter: \overline{LM}

D. Chord: \overline{FG} E. Secant: \overleftrightarrow{LM} H. Minor Arc: \widehat{HG} multiple answers

F. Point of Tangency: I G. Tangent: \overleftrightarrow{JK}

I. Major Arc: \widehat{HGF} J. If $FE = 6$, what is the length of GF ? 12
multiple answers

2. Graph and label the center and radius of the circle.

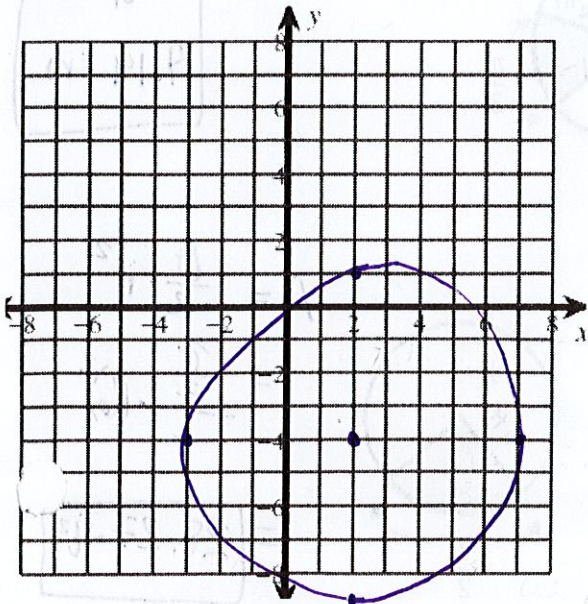
$$x^2 + y^2 - 4x + 8y - 5 = 0$$

$$(x^2 - 4x + 4) + (y^2 + 8y + 16) = 5 + 4 + 16$$

$$(x-2)^2 + (y+4)^2 = 25$$

Center: (2, -4)

Radius: 5



3. Graph and label the center and radius of the circle.

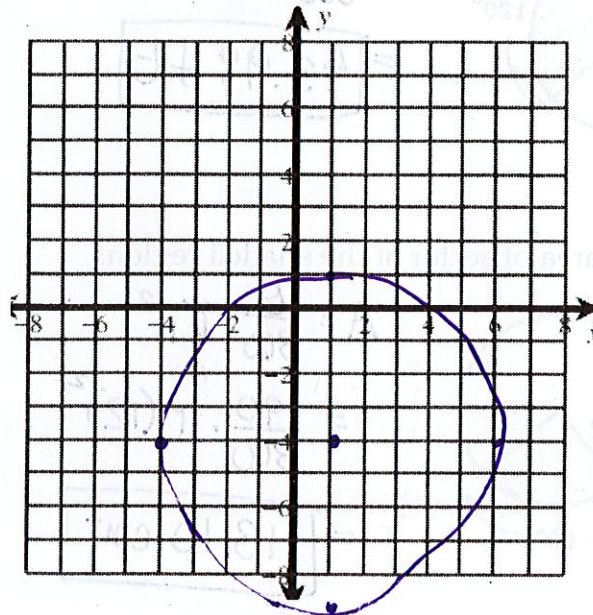
$$x^2 - 2x + y^2 + 8y = 8$$

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

$$(x-1)^2 + (y+4)^2 = 25$$

Center: (1, -4)

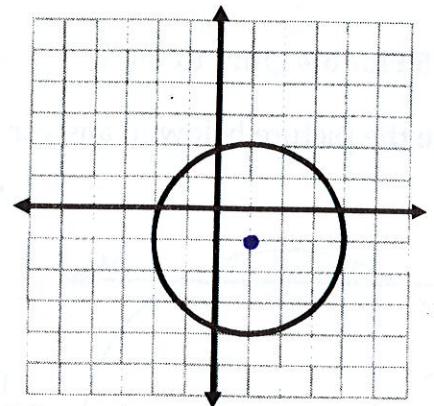
Radius: 5



3. Identify the following information given the graph to the right.

Center: (1, -1) Radius: 3

Equation: $(x-1)^2 + (y+1)^2 = 9$



4. Identify the center and radius of the circle. Leave in simplified radical form if necessary.

$$(x+2)^2 + y^2 = 75$$

$$\sqrt{r^2} = \sqrt{75}$$

$$r = 5\sqrt{3}$$

Center: (-2, 0)

Radius: $5\sqrt{3}$

5. Write the equation of the circle in standard form with a center at (5, -3) and a point on the circle at (2, 5).

x_1, y_1
 x_2, y_2

$$r = \sqrt{(2-5)^2 + (5+3)^2}$$

$$= \sqrt{9 + 64}$$

$$= \sqrt{73}$$

$$(x-5)^2 + (y+3)^2 = 73$$

$(\sqrt{73})^2$

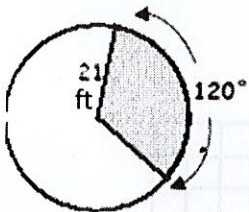
6. Find the arc length of the shaded region.

a)

$$s = \frac{\theta}{360} \cdot 2\pi r$$

$$= \frac{120}{360} \cdot 2\pi(21)$$

$$= 43.98 \text{ ft}$$

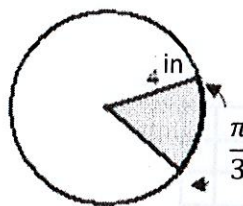


b)

$$s = r\theta$$

$$= (4) \left(\frac{\pi}{3}\right) = \frac{4\pi}{3} \text{ in}$$

or
4.19 in



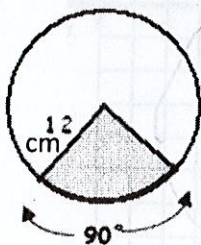
8. Find the area of sector of the shaded region.

a)

$$A = \frac{\theta}{360} \cdot \pi r^2$$

$$= \frac{90}{360} \cdot \pi (12)^2$$

$$= 113.10 \text{ cm}^2$$



b)

$$A = \frac{\theta}{2} \cdot r^2$$

$$= \frac{\frac{\pi}{2}}{2} \cdot (6)^2$$

$$= 28.27 \text{ ft}^2$$

