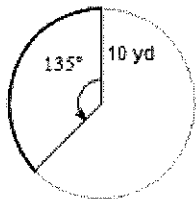


1. Find the length of the shaded arc.

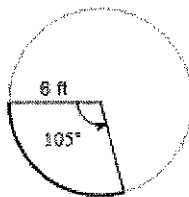


$$\frac{135}{360} \cdot 2\pi \cdot 10$$

Answer in terms of π 7.5π

Answer to nearest 10th 23.6
(one decimal place)

2. Find the area of the sector.



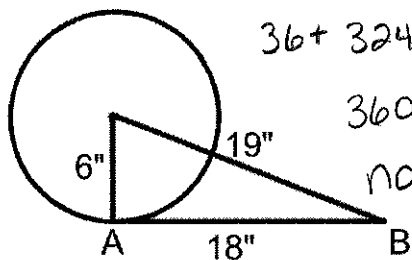
$$\frac{105}{360} \cdot \pi \cdot 6^2$$

Answer in terms of π 10.5π

Answer to nearest 10th 33.0
(one decimal place)

3. Determine if the line \overline{AB} is tangent.

a.



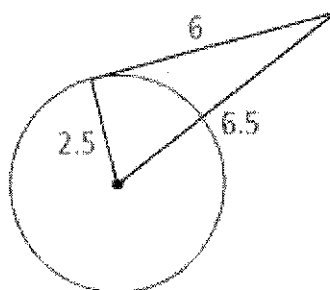
$$6^2 + 18^2 \stackrel{?}{=} 19^2$$

$$36 + 324 \stackrel{?}{=} 361$$

$$360 \neq 361$$

no

b.



$$2.5^2 + 6^2 \stackrel{?}{=} 6.5^2$$

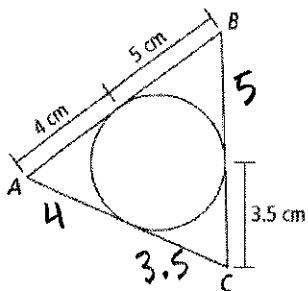
$$6.25 + 36 \stackrel{?}{=} 42.25$$

$$42.25 = 42.25$$

yes

4. a.

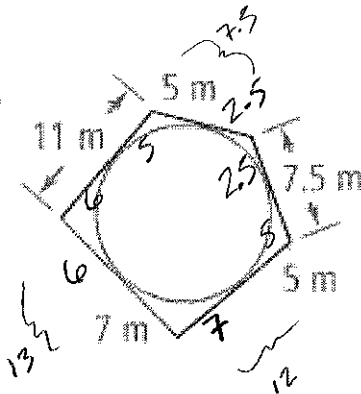
The triangle circumscribes the circle. What is the perimeter of the triangle?



$$4 + 4 + 5 + 5 + 3.5 + 3.5$$

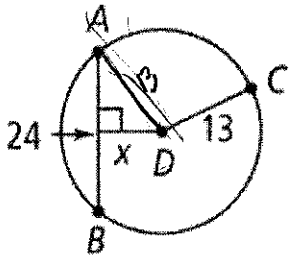
25cm

b. The polygon circumscribes the circle. What is the perimeter of the figure?



$$11 + 7.5 + 7.5 + 12 + 13 = 51m$$

5. Find the value of each variable.



a.

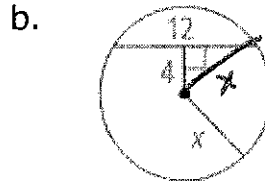
$$12^2 + x^2 = 13^2$$

$$144 + x^2 = 169$$

$$\begin{array}{r} -144 \\ -144 \end{array}$$

$$x^2 = 25$$

$$\boxed{x = 5}$$



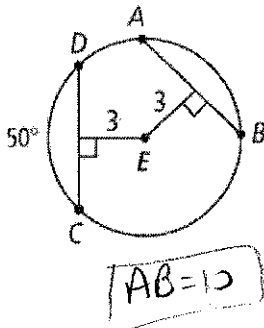
$$4^2 + 6^2 = x^2$$

$$16 + 36 = x^2$$

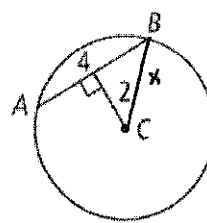
$$52 = x^2$$

$$\boxed{x = 7.2}$$

c. If $DC = 10$, find AB .



d. Find the radius of the circle.



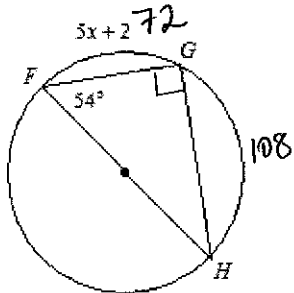
$$2^2 + 2^2 = x^2$$

$$4 + 4 = x^2$$

$$8 = x^2$$

$$\boxed{x = 2.8}$$

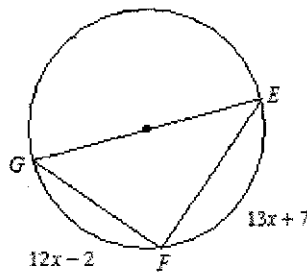
6. Solve for x for the inscribed triangles. Round your answer to the nearest tenth.



$$5x + 2 = 72$$

$$5x = 70$$

$$\boxed{x = 14}$$

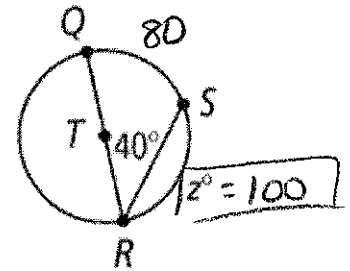


$$12x - 2 + 13x + 7 = 180$$

$$25x + 5 = 180$$

$$25x = 175$$

$$\boxed{x = 7}$$



7. Find the center and radius of each circle.

a. $(x - 3)^2 + (y - 5)^2 = 16$

Center $(3, 5)$
 $r = 4$

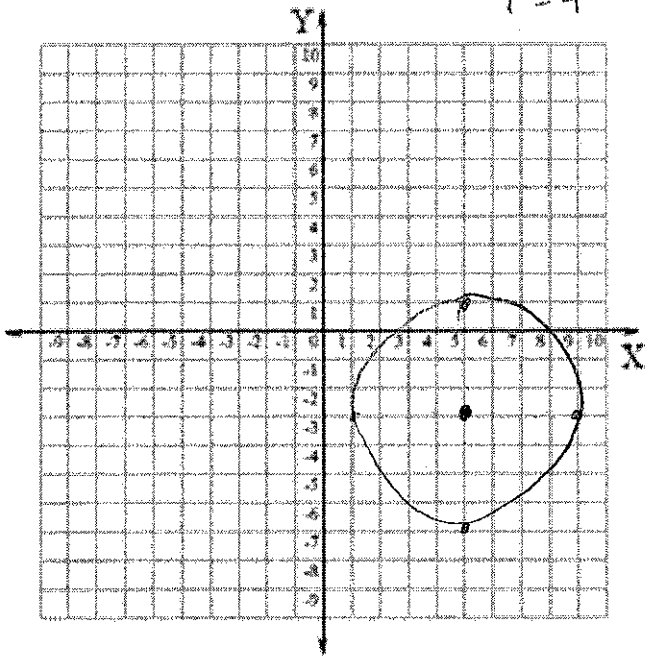
b. $(x + 2)^2 + y^2 = 49$

Center $(-2, 0)$
 $r = 7$

8. Graph each circle. Label the center and radius.

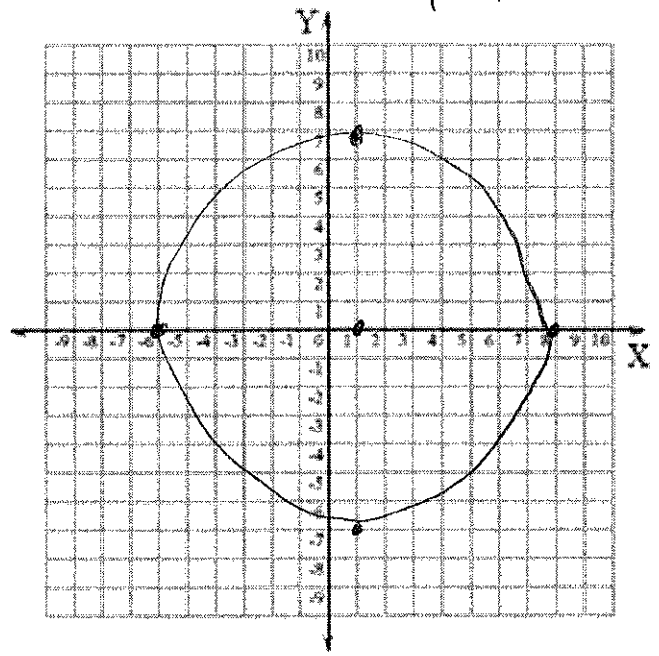
a. $(x-5)^2 + (y+3)^2 = 16$ Center: $(5, -3)$

$r = 4$



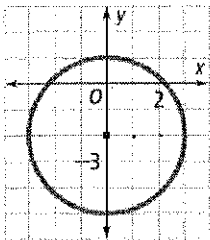
b. $(x-1)^2 + y^2 = 49$ Center: $(1, 0)$

$r = 7$



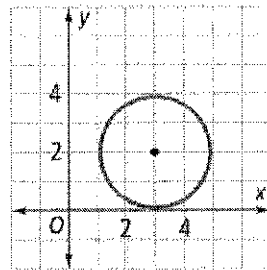
9. Write the equation of the circle shown.

a. Center $(0, -2)$ b.



$r = 3$

$|x^2 + (y+2)^2 = 9|$



Center: $(3, 2)$

$r = 2$

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

10. Write the equation of the circle that has a diameter with endpoints A and B.

a. A(2, 3) B(-6, 5)

$x_1, y_1 \quad x_2, y_2$

Center \rightarrow Midpoint

$(\frac{2+(-6)}{2}, \frac{3+5}{2})$

$\frac{-4}{2}, \frac{8}{2}$

$(-2, 4)$

$d = \sqrt{(-6-2)^2 + (5-3)^2}$

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

$d = \sqrt{64+4}$

$d = \sqrt{68} = 8.2$

$r = \frac{8.2}{2} = 4.1$

$(x+2)^2 + (y-4)^2 = 4.1^2$

$|x^2 + (y-4)^2 = 16.8|$

b. A(-4, -5) B(2, -7)

$x_1, y_1 \quad x_2, y_2$

Center:

$(\frac{-4+2}{2}, \frac{-5+(-7)}{2})$

$\frac{-2}{2}, \frac{-12}{2}$

$(-1, -6)$

$d = \sqrt{(2+(-4))^2 + (-7+(-5))^2}$

$d = \sqrt{6^2 + (-12)^2}$

$d = \sqrt{36+144}$

$d = \sqrt{180} = 13.4$

$r = \frac{13.4}{2} = 6.7$

$(x+1)^2 + (y+6)^2 = 6.7^2$

$|x^2 + (y+6)^2 = 44.89|$