

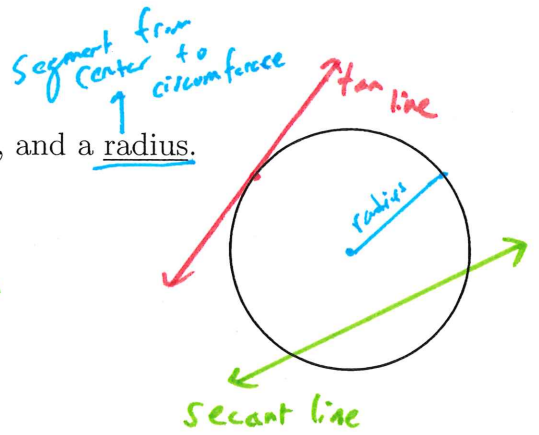
CO-A1d

Practice Assessment Q4 #2

1. In the circle here, draw and label a tangent line, a secant line, and a radius.

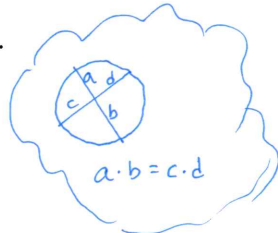
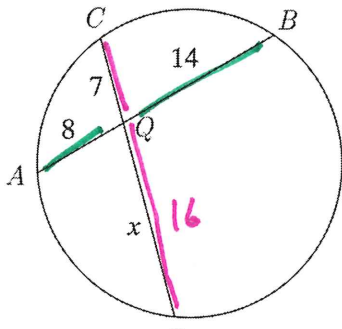
touches circles at only 1 pt.

touches circle twice  
(line version of chord)



C-A1a

2. Find the length of  $\overline{CD}$ .



$$7 \cdot x = 8 \cdot 16$$

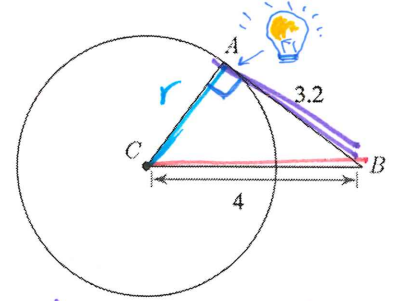
$$7x = 112$$

$$\frac{7x}{7} = \frac{112}{7}$$

$$x = 16$$

So  
 $\overline{CD} = 7 + 16 = 23$

3.  $\overline{AB}$  is tangent to circle C. Find its diameter.



$$3.2^2 + r^2 = 4^2$$

$$10.24 + r^2 = 16$$

$$r^2 = 5.76$$

$$r = \sqrt{5.76}$$

$$r = 2.4$$

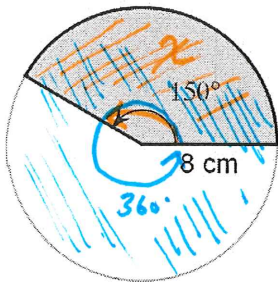
Diameter =  $2r$

$$2(2.4) = 4.8$$

C-B5a

4. Find the exact area of the shaded sector.

Full circle Area:  $\pi r^2$



part whole proportions

$$\frac{150^\circ}{360^\circ} = \frac{x}{\pi \cdot 8^2}$$

$$360x = 64\pi \cdot 150$$

$$360x = 9600\pi$$

$$\frac{360x}{360} = \frac{9600\pi}{360}$$

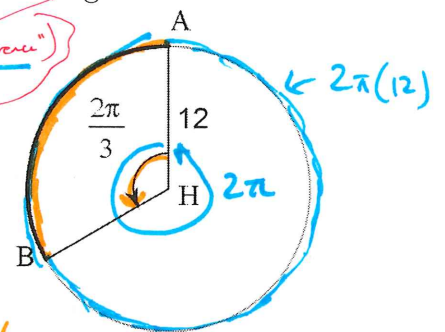
reduce fraction

$$x = \frac{80}{3} \pi \text{ cm}^2$$

5. Find the exact length of  $\overline{AB}$

Full Arc Length ("Circumference") =  $2\pi r$

$180^\circ = \pi$   
 $360^\circ = 2\pi$



$$\frac{2\pi/3}{2\pi} = \frac{x}{2\pi \cdot 12}$$

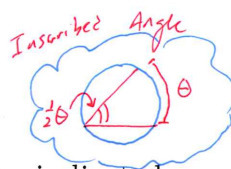
$$\frac{2x}{2} = \frac{2\pi \cdot 12 \cdot \frac{2}{3}}{2}$$

$$x = 12 \cdot \frac{2\pi}{3}$$

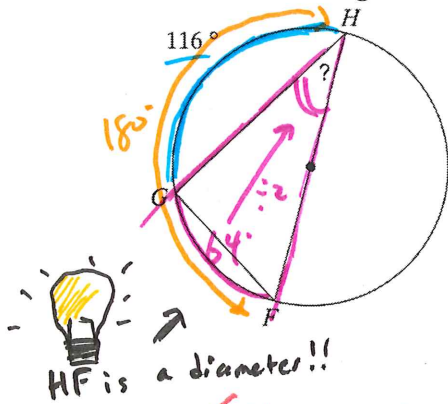
$$x = \frac{24\pi}{3} \Rightarrow 8\pi$$

C-A2a

6. Find the degree measure of the indicated arc. →



7. Find the degree measure of the indicated angle below.

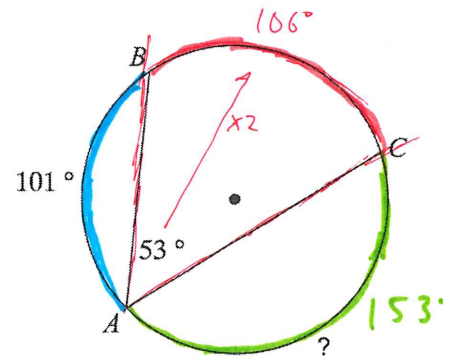


$$180^\circ + \text{arc GF} = 180^\circ$$

$$116^\circ + \text{arc GF} = 180^\circ$$

$$\text{arc GF} = 64^\circ$$

$$\angle \text{GHF} = \frac{64^\circ}{2} = 32^\circ$$



$$101^\circ + 106^\circ + ? = 360^\circ$$

$$207^\circ + ? = 360^\circ$$

$$? = 153^\circ$$

GPE-A1a

(These will be easier on Assessment :))

8. Write the equation of a circle where  $(-10, 11)$  and  $(2, 1)$  are endpoints of a diameter.

Midpoint of diameter? Circle center!  
Midpoint formula? (Avg. of x's, Avg. of y's)

$$\left( \frac{-10+2}{2}, \frac{11+1}{2} \right)$$

$$\left( -\frac{8}{2}, \frac{12}{2} \right) \Rightarrow (-4, 6)$$

$\begin{matrix} x & y \\ h & k \end{matrix}$

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

Plug in either given point.

$$(2 + 4)^2 + (1 - 6)^2 = r^2$$

$$(6)^2 + (-5)^2 = r^2$$

$$36 + 25 = r^2 \Rightarrow 61 = r^2$$

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

r: radius  
(h, k): center

$$(x + 4)^2 + (y - 6)^2 = 61$$

9. Does the point  $(\sqrt{7}, 8)$  lie on a circle with center  $(0, 5)$  and radius 4? Show the calculations that lead to your conclusion.

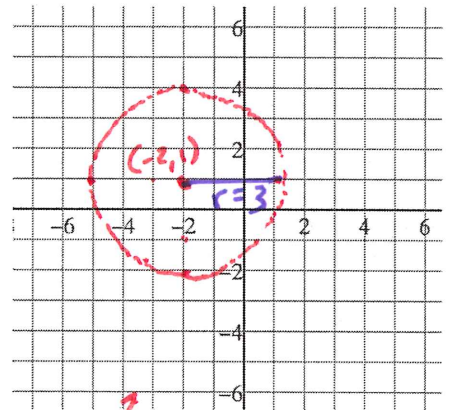
$$(x - 0)^2 + (y - 5)^2 = 4^2$$

Plug in given pt.

$$(\sqrt{7} - 0)^2 + (8 - 5)^2 = 4^2$$

$$(\sqrt{7})^2 + (3)^2 = 16$$

$$7 + 9 = 16 \Rightarrow 16 = 16 \text{ true? yes!}$$



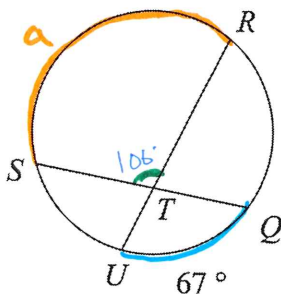
10. Sketch the circle described by  $(x + 2)^2 + (y - 1)^2 = 9$

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

Center:  $(-2, 1)$   $r = 3$

C-A3a

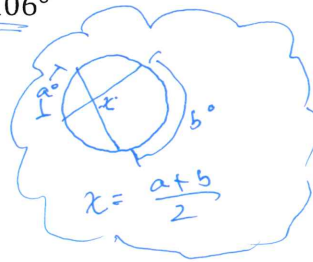
11. Find the measure of  $\widehat{RS}$  if  $\angle RTS = 106^\circ$



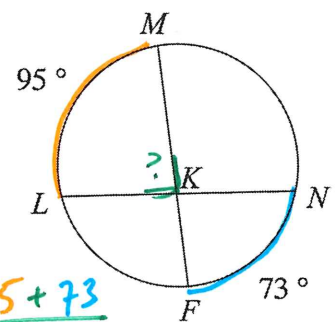
$$106^\circ = \frac{a + 67^\circ}{2}$$

$$212^\circ = a + 67^\circ$$

$$145^\circ = a$$



12. Find the measure of  $\angle MKL$



$$? = \frac{95 + 73}{2}$$

$$= \frac{168}{2} = 84^\circ$$