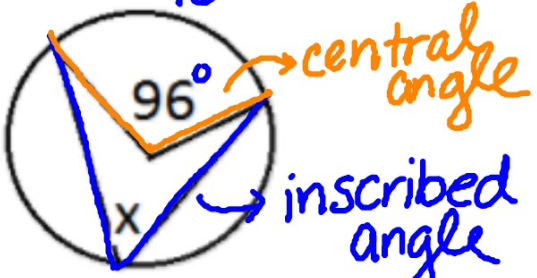
What Should I Know & Be Able to Do?

- Arc & Angle Formulas
- Lengths of Chords, Secant & Tangent Lines
- Equation of a Circle
- Right Triangle Trig
- Area of Sector & Arc Length

- Solve Equations
- Identify center & radius of a circle
- SOH CAH TOA
- Converting in Degrees & Radians

Arcs & Angles

1.



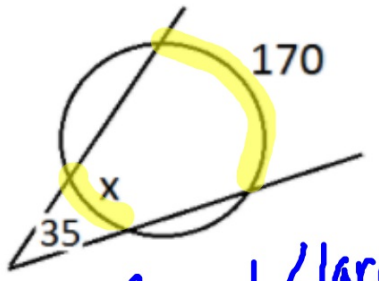
I: angle $= \frac{1}{2}$ arc

C: angle = arc

$x = \frac{1}{2}(96^\circ)$

$x = 48^\circ$

4.



angle $= \frac{1}{2}$(larger arc − small arc)

$2(35^\circ) = 2\left[\frac{1}{2}(170 - x)\right]$

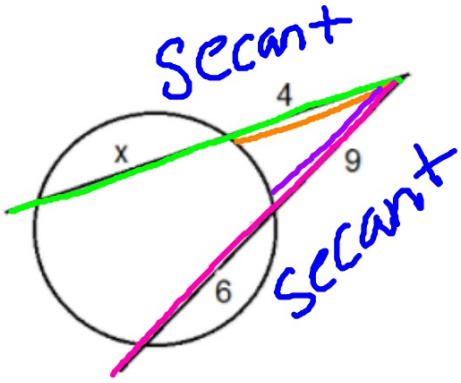
$70 = 170 - x$

$-170 \quad -170$

$-100 = -x$

$x = 100^\circ$

5.



Lengths

$6+9$

$(x+4)4 = 15(9)$

$4x+16 = 135$

$-16 \quad -16$

$\frac{4x}{4} = \frac{119}{4}$

$x = 29.75$

Equation of a Circle

9. $(x+2)^2 + (y+5)^2 = 36$

Center: $(-2, -5)$ radius: 6

11. $x^2 + y^2 + 14x - 4y + 44 = 0$

$x^2 + 14x + 49 + y^2 - 4y + 4 = -44 + 49 + 4$

$\frac{14}{2} = (7)^2 = 49$

$\frac{-4}{2} = (-2)^2 = 4$

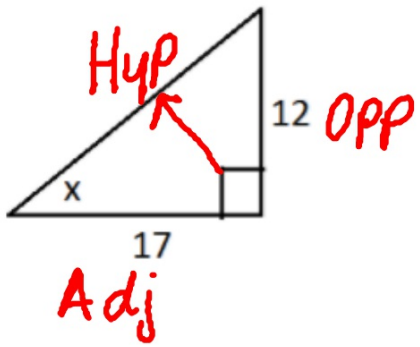
$(x+7)^2 + (y-2)^2 = 9$

Center: $(-7, 2)$

radius: 3

Right Triangle Trig

15.



~~SOH~~ ~~CAH~~ TOA

$$\tan\theta = \frac{opp}{adj}$$

$$\tan X = \frac{12}{17}$$

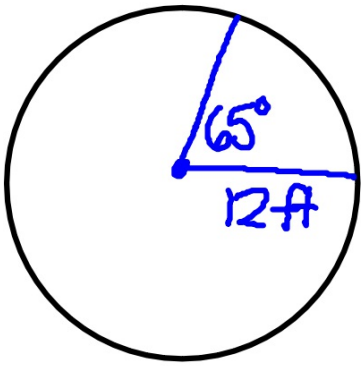
$$X = \tan^{-1}(12/17)$$

$$X = 35.21°$$

☆ Inverse trig when solving for an angle

Area of a Sector & Arc Length

16. central angle = $65°$, radius = 12 feet



$$A = \pi r^2\left(\frac{C}{360}\right)$$

$$A = \pi(12)^2\left(\frac{65}{360}\right)$$

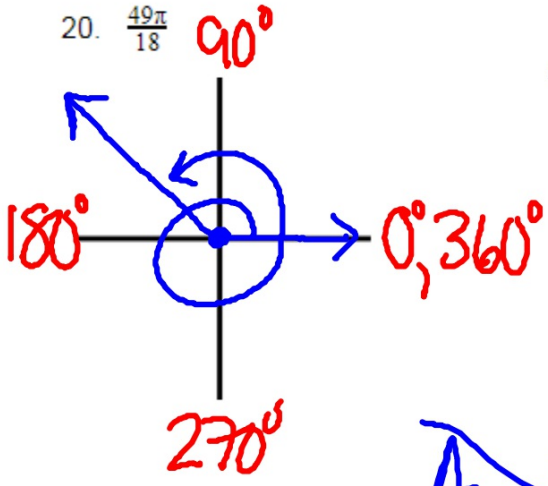
$$A = 26\pi\ ft^2$$

$$L = Cr\left(\frac{\pi}{180}\right) \qquad L = 65(12)\left(\frac{\pi}{180}\right)$$

$$L = \frac{13\pi}{3}\ ft$$

Angles in Standard Position

20. $\frac{49\pi}{18}$



$\frac{49\pi}{18}\left(\frac{180^\circ}{\pi}\right) = 490^\circ$

-360

130°

A ~~270~~

B = ~~-100~~

C = 490

D ~~$\frac{\pi}{3}$~~

Unit Circle (x, y)

25. $\tan \frac{\pi}{2}$

$\frac{1}{0}$

= undefined

Sine - y's

Cosine - x's

tangent - $\frac{y}{x}$