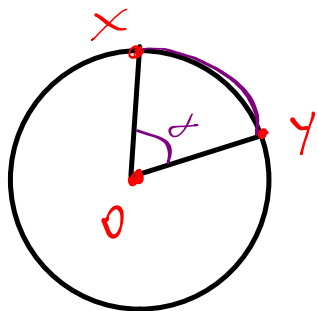


Unit 3: Theorems cont'd

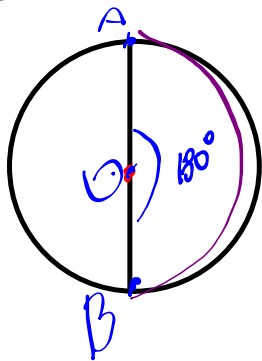
Theorem 14:

$$m\angle XOY = m\widehat{XY}$$



$$\alpha = 45^\circ$$

$$m\widehat{XY} = 45^\circ$$

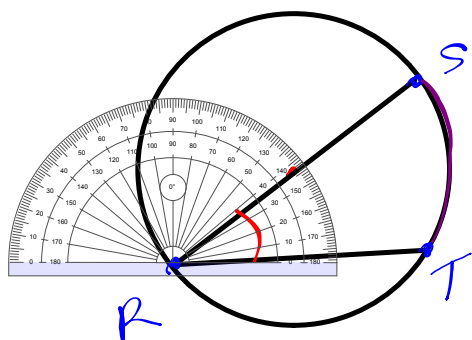


$$m\widehat{AB} = 180^\circ$$

Theorem 15:

the m  $\angle$  SRT is  $\frac{1}{2}$  the m  $\widehat{ST}$

$$\angle SRT = \frac{1}{2} m \widehat{ST}$$

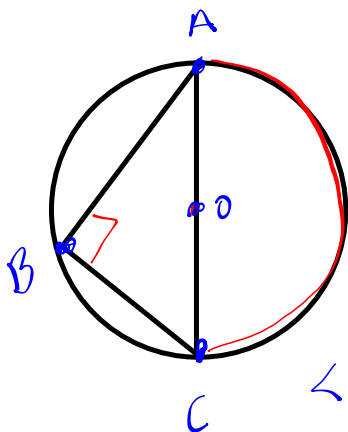


$$\angle SRT = 35^\circ$$

Find  $m \widehat{ST}$

$$2 \cdot (35) = \left(\frac{1}{2} \widehat{ST}\right) \cdot 2$$

$$\widehat{ST} = 70^\circ$$



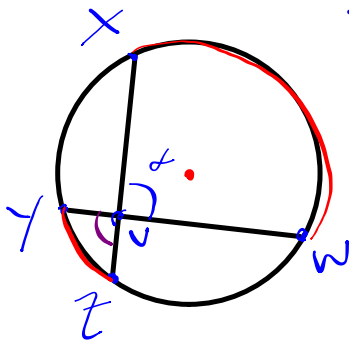
$$\angle AOC = 180^\circ$$

$$\widehat{AC} = 180^\circ$$

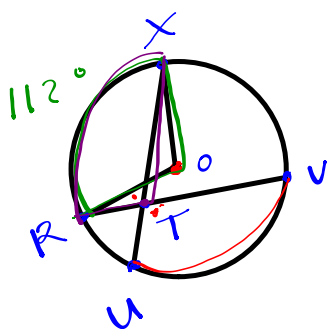
Find  $\angle ABC$

Theorem 16:

$$\angle Xvw = \frac{1}{2} (\widehat{Xw} + \widehat{Yz})$$



$$\angle wvz =$$



$m\angle XOR = 112^\circ$

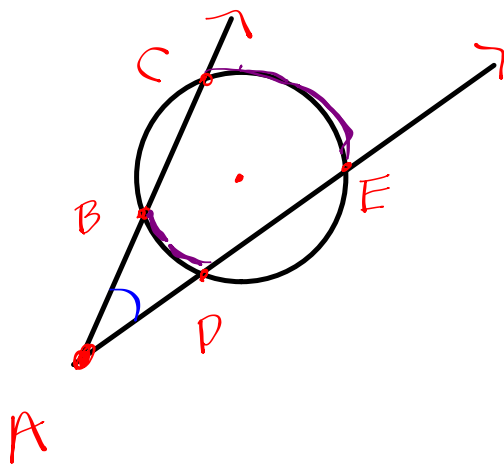
$m\angle XTR = 113^\circ$

Find  $m\widehat{UV}$

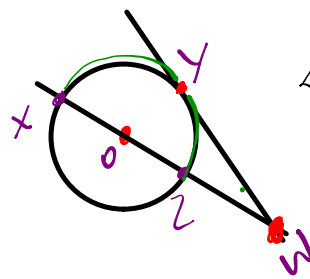
Th 14  $m\angle XOR = \widehat{RX}$   
 $112 = \widehat{RX}$

Th 16  $m\angle XTR = \frac{1}{2}(\widehat{XR} + \widehat{UV})$   
 $2 \cdot 113^\circ = \frac{1}{2}(112^\circ + \widehat{UV})$   
 $220^\circ = 112^\circ + \widehat{UV}$   
 $\widehat{UV} = 114^\circ$

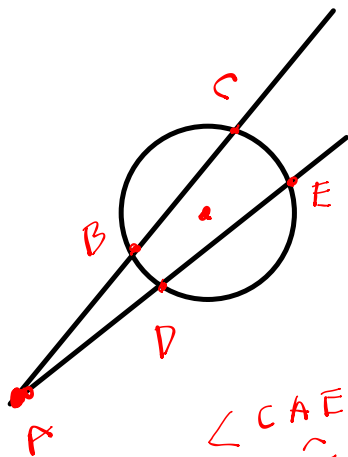
Theorem 17:



$$m\angle BAD = \frac{1}{2}(\widehat{CE} - \widehat{DB})$$

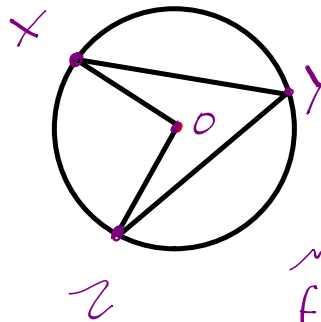


$$\angle OWY = \frac{1}{2}(\widehat{YX} - \widehat{YZ})$$



$\angle CAE = 24^\circ$   
 $m \widehat{CE} = 112^\circ$   
 find  $m \widehat{BD}$

Do 3.22 #5  
 3.23 #6

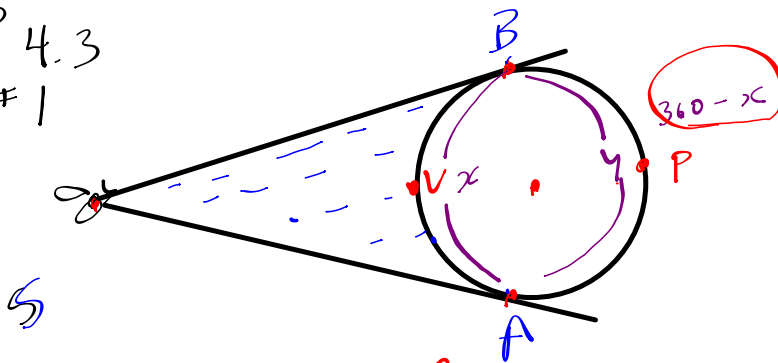


$m \angle XOZ = 100^\circ$   
 find  $m \angle XYZ$

• get good at identifying which type of angle you have  
 • label and figure the correct theorem

Unit 4: Word Problems Involving Elements of Circles and their Theorems

P 4.3  
#1



$m\angle ASB = 46^\circ$

Th 17:  $\angle BSA = \frac{1}{2} (\widehat{BPA} - \widehat{BVA})$

$46 = \frac{1}{2} (360 - x - x)$

$2 \cdot 46 = \frac{1}{2} (360 - 2x)$

$92 = 360 - 2x$

$\frac{-268}{-2} = \frac{-2x}{-2}$   
 $x = 134$

strategies  
• sketch/label/identify

• identifies the unknowns.  
• 2 unknowns  $\rightarrow$  2 equations (or talk about the unknowns in terms of one).

• equation from the properties of the graph  
• equation from the theorems.

• collect like terms  
• solve  $x$

$\frac{134^\circ}{360^\circ} = \frac{35}{90}$

P 4.4

Ex 2

mantra

further from home

36 923 km  
x = diameter

equally

worn tires

$$32\,000 \text{ km} = C \times \# \text{ revolutions}$$

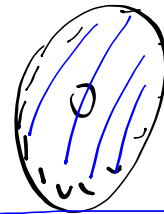
$$\frac{32\,000 \text{ km}}{32.5 \text{ cm}} = \text{diameter}$$

does the situation rep. area or

Circumference

12

they've done the same # of revolutions



$$\frac{C_1}{C_2} = \frac{r_1}{r_2} = \frac{d_1}{d_2}$$

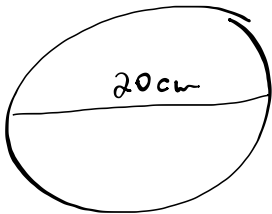
$$\frac{36\,923}{32\,000} = \frac{d_1}{32.5}$$

$$d_1 = \frac{32.5 \cdot 36\,923}{32\,000}$$

$$d_1 = 37.5 \text{ cm}$$



Pie Business

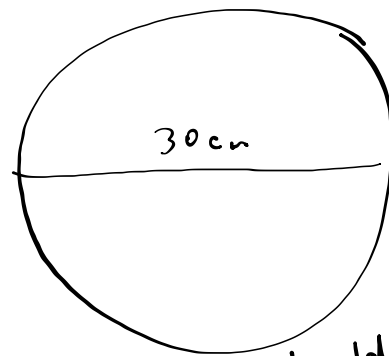


cost \$6.00

Pr 13

$$\frac{A_1}{A_2} = \frac{r_1^2}{r_2^2}$$

$$\frac{\$6}{A_2} = \frac{(10)^2}{(15)^2}$$



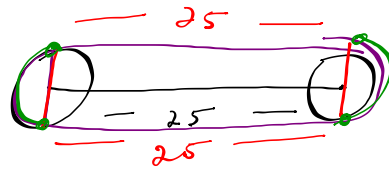
how much should this pie cost to fairly rep. how much more pie you're getting?

$$\$2 = 13.50 \$$$

Susy makes rings. She has one ring with a diameter of 0.5 inches that costs \$150. Shannon, however, needs a 0.7 inch ring, and Susy says she'll make Shannon a deal. Shannon will have to pay \$220 for the larger ring. Is Susy being honest that it's a deal?

P. 4.12

Good Question



purple =  $50 + 47.12$   
 purple =



$$C = 2\pi r$$

$$C = \pi d$$

$$C = \pi(15)$$

$$C = 47.12$$