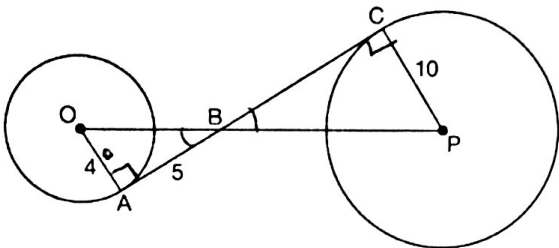


Name: _____
 Date: _____
 Class: _____

Geometry
 Unit 10
 HW 10-7

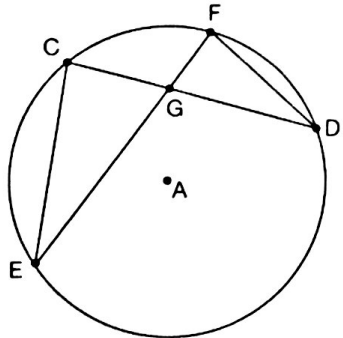
- 1) In the diagram shown below, \overline{AC} is tangent to circle O at A and to circle P at C . \overline{OP} intersects \overline{AC} at B . $OA = 4$, $AB = 5$, and $PC = 10$.



~ A's
 $\triangle PCB \sim \triangle OAB$
 $\overline{PC} \rightarrow \overline{OA}$
 $\overline{AB} \rightarrow \overline{CB}$
 $\frac{4}{10} = \frac{5}{x}$
 $4x = 50$
 $x = 12.5$

What is the length of \overline{BC} ?

- 2) In the diagram of circle A shown below, chords \overline{CD} and \overline{EF} intersect at G , and chords \overline{CE} and \overline{FD} are drawn.



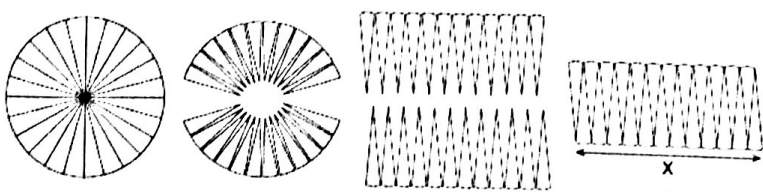
~ A's

Which statement is not always true?

- (1) $\overline{CG} \cong \overline{FG}$ ~~only if $\angle C = \angle F$~~
 (2) $\frac{CE}{EG} = \frac{FD}{DG}$ ~~consider proportional~~
 (3) $\angle CEG \cong \angle FDG$ ~~same arcs~~
 (4) $\triangle CEG \sim \triangle FDG$ ~~check~~

Explain why each of the other answers is always true.

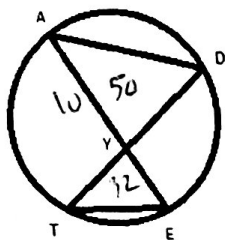
- 3) A circle with a radius of 5 was divided into 24 congruent sectors. The sectors were then rearranged, as shown in the diagram below.



To the nearest integer, the value of x is

~ half circ
 $C = 2\pi(\frac{5}{2}) = \frac{10\pi}{2} = 5\pi = 15.7$
 $x = 16$

4)



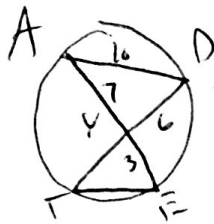
If the area of ΔYAD is 50 and the area of ΔYTE is 32, find YT if $YA = 10$.

corr sides

$$\frac{32}{50} = \sqrt{\frac{16}{25}} = \frac{4}{5} \rightarrow SF$$

$$\frac{4}{5} = \frac{x}{10} \quad \boxed{x = 8}$$

5) Using the diagram for 4 - $AD = 10$, $DY = 6$, $YA = 7$, $YE = 3$. Find the perimeter of triangle YET .



$\overline{YE} \rightarrow \overline{DY} \rightarrow$ corr sides

$$\frac{3}{6} \rightarrow SF$$

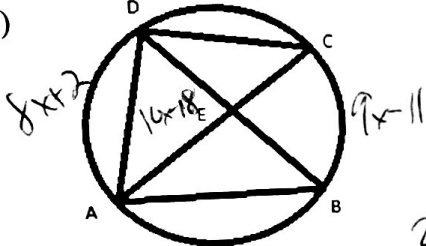
Perim ΔADY

$$10 + 7 + 6 = \boxed{23}$$

$$\frac{1}{2} = \frac{x}{23}$$

$$\boxed{x = 11.5}$$

6)



Determine if E is the center of the circle given the following information (segment AC is a diameter).

$$m\widehat{AD} = 8x + 2, m\widehat{BC} = 9x - 11, \text{ and}$$

$$m\angle DEA = 10x - 18$$

$$\frac{1}{2}(m\widehat{BC} + m\widehat{AD})$$

$$2(10x - 18) = \frac{1}{2}(8x + 2 + 9x - 11)$$

$$20x - 36 = 17x - 9$$

$$3x = 27$$

$$\boxed{x = 9}$$

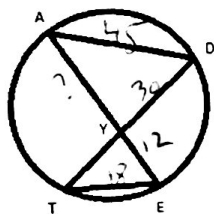
$$10(9) - 18$$

$$72^\circ$$

$$8(9) + 2$$

$$74^\circ$$

7)



$TE = 18$, $YE = 12$, $DY = 30$, find a range of possible values for AY .

$$\frac{12}{30} = \frac{2}{5} \rightarrow SF$$

$$\frac{2}{5} = \frac{x}{45}$$

$$x = 45 \rightarrow \boxed{AD}$$

Since $m\angle DEA$ is not $= m\widehat{AD}$
pt E is not
The center

AY range

$$45 + 30 = 75$$

$$45 - 30 = 15$$

$$\boxed{15 < AY < 75}$$