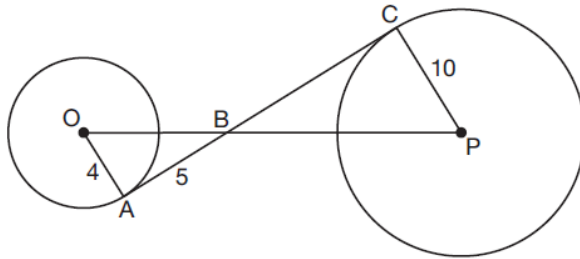


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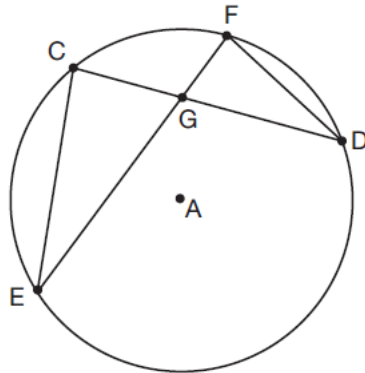
Geometry  
 Unit 10  
 HW 10-7

- 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  $PC = 10$ .



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.

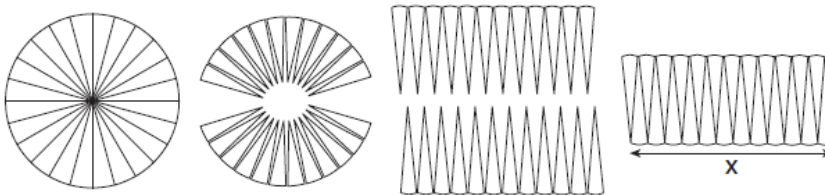


Which statement is *not* always true?

- (1)  $\overline{CG} \cong \overline{FG}$                       (3)  $\frac{CE}{EG} = \frac{FD}{DG}$   
 (2)  $\angle CEG \cong \angle FDG$                 (4)  $\triangle CEG \sim \triangle FDG$

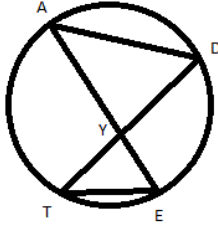
Explain why each of the other answers is always true.

- 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

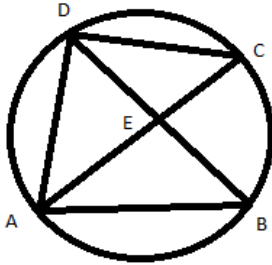
4)



If the area of  $\Delta YAD$  is 50 and the area of  $\Delta YTE$  is 32, find  $YT$  if  $YA = 10$ .

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

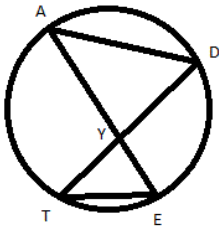
6)



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

$$m\widehat{AD} = 8x + 2, m\widehat{BC} = 9x - 11, \text{ and} \\ m\angle DEA = 10x - 18$$

7)



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