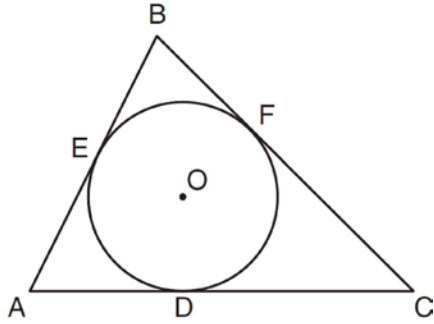


G.C.A.2: Chords, Secants and Tangents 5

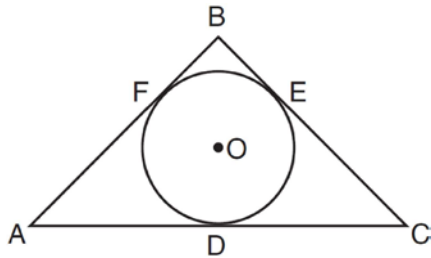
- 1 In the diagram below, $\triangle ABC$ is circumscribed about circle O and the sides of $\triangle ABC$ are tangent to the circle at points D , E , and F .



If $AB = 20$, $AE = 12$, and $CF = 15$, what is the length of AC ?

- 1) 8
- 2) 15
- 3) 23
- 4) 27

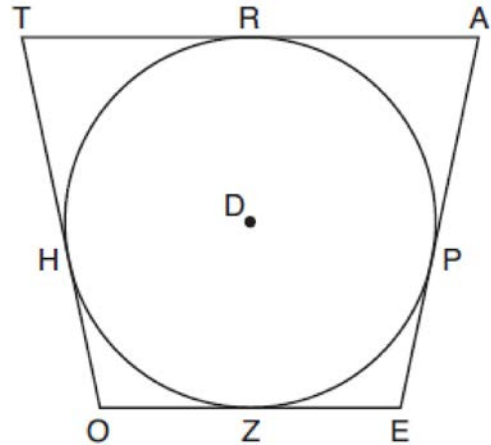
- 2 In the diagram below, \overline{AB} , \overline{BC} , and \overline{AC} are tangents to circle O at points F , E , and D , respectively, $AF = 6$, $CD = 5$, and $BE = 4$.



What is the perimeter of $\triangle ABC$?

- 1) 15
- 2) 25
- 3) 30
- 4) 60

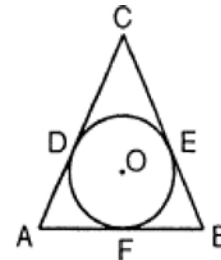
- 3 In the figure shown below, quadrilateral $TAEO$ is circumscribed around circle D . The midpoint of \overline{TA} is R , and $\overline{HO} \cong \overline{PE}$.



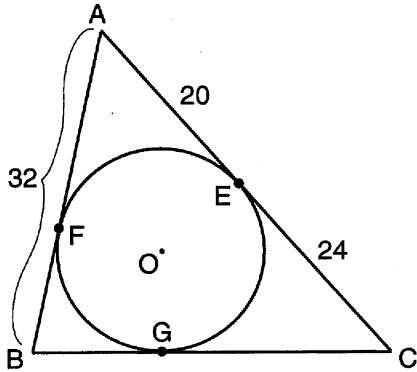
If $AP = 10$ and $EO = 12$, what is the perimeter of quadrilateral $TAEO$?

- 1) 56
- 2) 64
- 3) 72
- 4) 76

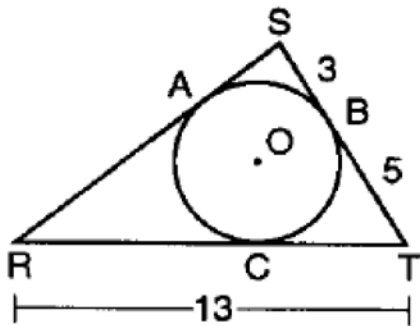
- 4 In the accompanying diagram, circle O is inscribed in $\triangle ABC$ so that the circle is tangent to \overline{AB} at F , to \overline{BC} at E , and to \overline{AC} at D . If $AF = FB = 5$ and $DC = 7$, find the perimeter of $\triangle ABC$.



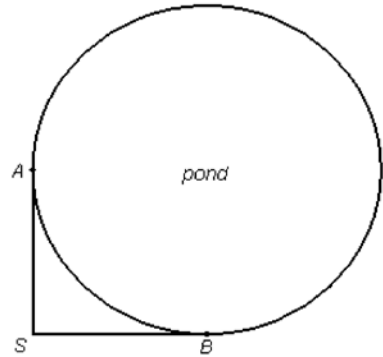
- 5 In the accompanying diagram, \overline{AFB} , \overline{AEC} , and \overline{BGC} are tangent to circle O at F , E , and G , respectively. If $AB = 32$, $AE = 20$, and $EC = 24$, find BC .



- 6 In the accompanying diagram, segments \overline{RS} , \overline{ST} , and \overline{TR} are tangent to circle O at A , B , and C , respectively. If $SB = 3$, $BT = 5$, and $TR = 13$, what is the measure of \overline{RS} ?



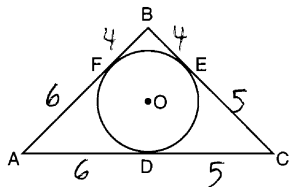
- 7 Two docks, A and B , are located on a circular pond as shown in the diagram below. A surveyor wants to determine the distance these two docks are from each other across the pond. The surveyor, located at point S , knows that he is 200 yards from both docks and his measuring equipment indicates that there is a 90° angle between his sight lines to dock A and to dock B . How far, to the nearest tenth of a yard, is it across the pond from dock A to dock B ?



G.C.A.2: Chords, Secants and Tangents 5 Answer Section

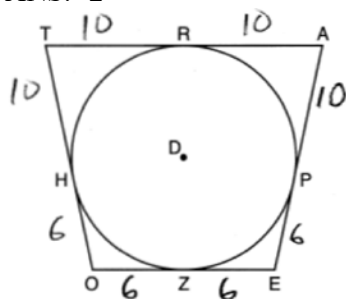
1 ANS: 4 REF: 011208ge STA: G.G.53

2 ANS: 3



REF: 011101ge STA: G.G.53

3 ANS: 2



REF: 081814geo

4 ANS:
34

REF: 089311siii

5 ANS:
36

REF: 069615siii

6 ANS:
11

REF: 019804siii

7 ANS:

$$a^2 + b^2 = c^2$$

$$282.8 \cdot 200^2 + 200^2 = c^2$$

$$c \approx 282.8$$

REF: fall9926b