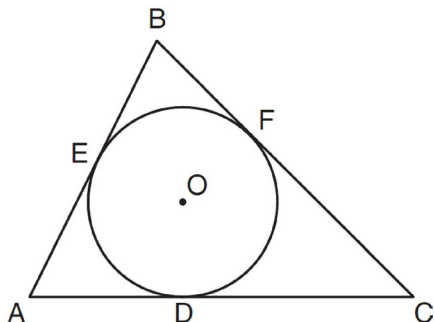


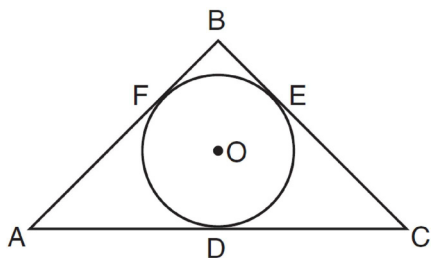
G.G.53: Segments Intercepted by Circle 1: Investigate, justify, and apply theorems regarding segments intercepted by a circle: along two tangents from the same external point

- 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 ?

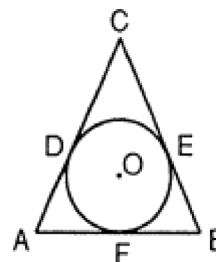
- 1) 8
 - 2) 15
 - 3) 23
 - 4) 27
- 2 In the diagram below, \overline{AB} , \overline{BC} , and \overline{AC} are tangents to circle O at points F , E , and D , respectively, $AF = 6$, $CD = 5$, and $BE = 4$.



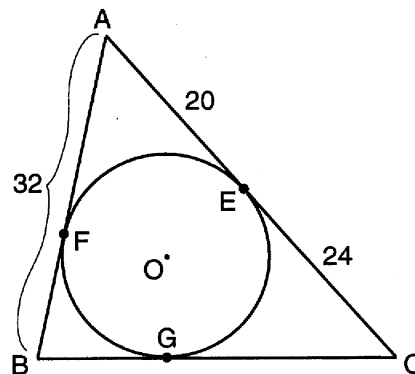
What is the perimeter of $\triangle ABC$?

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

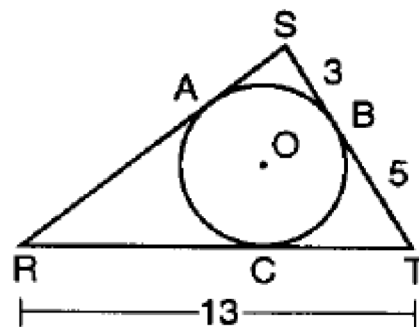
- 3 In the accompanying diagram, circle O is inscribed in $\triangle ABC$ so that the circle is tangent to \overline{AB} at F , to \overline{BC} at E , and to \overline{AC} at D . If $AF = FB = 5$ and $DC = 7$, find the perimeter of $\triangle ABC$.



- 4 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 .



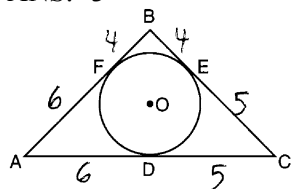
- 5 In the accompanying diagram, segments \overline{RS} , \overline{ST} , and \overline{TR} are tangent to circle O at A , B , and C , respectively. If $SB = 3$, $BT = 5$, and $TR = 13$, what is the measure of RS ?



G.G.53: Segments Intercepted by Circle 1: Investigate, justify, and apply theorems regarding segments intersected by a circle: along two tangents from the same external point
Answer Section

1 ANS: 4 REF: 011208ge

2 ANS: 3



REF: 011101ge

3 ANS:
34

REF: 089311siii

4 ANS:
36

REF: 069615siii

5 ANS:
11

REF: 019804siii