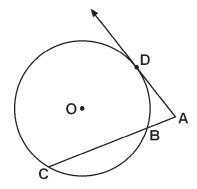
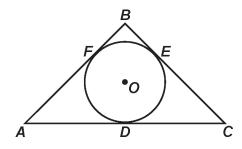
Segments Formed by Secants and Tangents

1) In the accompanying figure, \overrightarrow{AD} is tangent to circle O at D and \overrightarrow{ABC} is a secant.



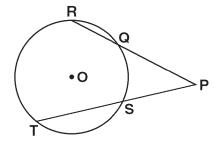
If AD = 4 and AC = 8, find AB.

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.



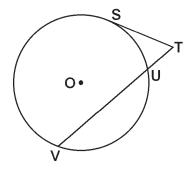
What is the perimeter of $\triangle ABC$?

3) <u>In the diagram below, secant segments PR and PT intersect at P.</u>



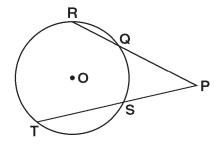
If PR = 10, PQ = 6, and PS = 5, find PT.

4) In the accompanying diagram, TS is tangent to circle O at S and TUV is a secant.



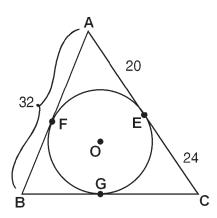
If TU = 3 and UV = 9, find the length of \overline{TS} .

5) <u>In the diagram below, secant segments PR and PT intersect at P.</u>



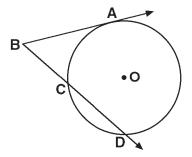
If PR = 12, QR = 8, and PT = 16, find PS.

6) In the accompanying diagram, AFB, AEC, and BGC are tangent to circle O at F, E, and G, respectively.



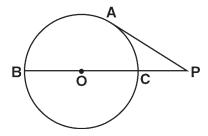
If AB = 32, AE = 20, and EC = 24, find BC.

7) In the diagram below, BA is tangent to circle O at A and BD is a secant.



If AB = 12 and BC = 6, find BD.

8) In the diagram below, diameter BC is extended to point P and tangent PA is drawn.



If OC = 12 and CP = 3, find AP.