Name _____ Mr. Schlansky Date _____ Geometry

Exterior Angles (Segments)

1. In the diagram, tangent \overline{DC} and secant \overline{CBA} are drawn to circle O from external point C. If DC = 4 and AB = 6, find BC.



2. In the diagram, \overline{AD} is tangent to circle *O* at *D*, and \overline{CBA} is a secant. If AD = 6 and AC = 9, what is AB?



3. In the diagram, \overline{AP} is a tangent and \overline{PBC} is a secant to circle O. If PC = 12 and BC = 9, what is AP?



4. In the diagram, \overline{AB} is tangent to circle O at B, and \overline{ACD} is a secant. If AB = 9 and AD = 27, find AC.



5. In the diagram below, \overline{PS} is a tangent to circle *O* at point *S*, \overline{PR} is a secant, PS = x, PQ = 3, and PR = x + 18. What is the length of \overline{PS} ?



(Not drawn to scale)

6. In the diagram below of circle O, secant \overline{AB} intersects circle O at D, secant \overline{AOC} intersects circle O at E, AE = 4, AB = 12, and DB = 6.



7. In the diagram below of circle O, \overline{PA} is tangent to circle O at A, and \overline{PBC} is a secant with points B and C on the circle.



8. In the accompanying diagram, cabins B and G are located on the shore of a circular lake, and cabin L is located near the lake. Point D is a dock on the lake shore and is collinear with cabins B and L. The road between cabins G and L is 8 miles long and is tangent to the lake. The path between cabin L and dock D is 4 miles long.

What is the length, in miles, of \overline{BD} ?



(Not drawn to scale)