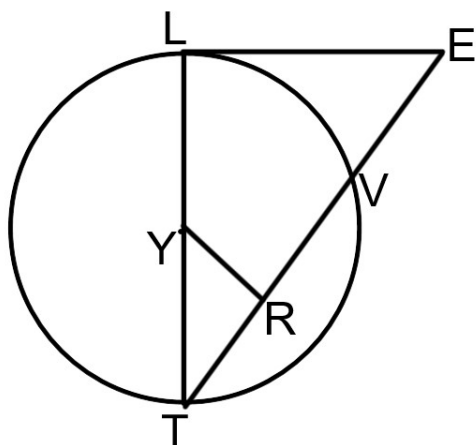


Name _____
Mr. Schlansky

Date _____
Geometry

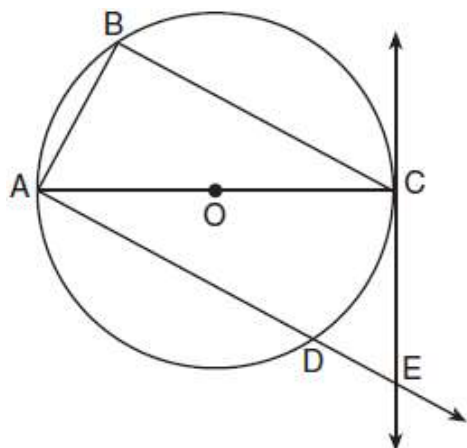
Similar Triangle Proofs with Circle Theorems

1. In circle Y, tangent \overline{LE} is drawn to diameter \overline{TYL} and $\overline{YR} \perp \overline{TE}$. Prove that $\frac{\overline{TE}}{\overline{TY}} = \frac{\overline{TL}}{\overline{TR}}$.

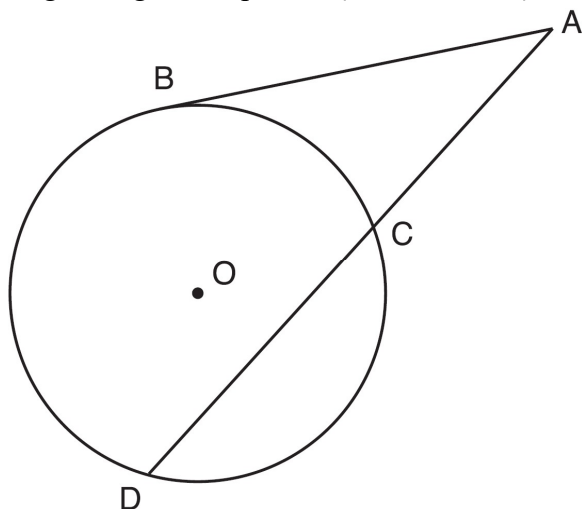


2. In the diagram below of circle O, tangent \overleftrightarrow{EC} is drawn to diameter \overline{AC} . Chord \overline{BC} is parallel to secant \overline{ADE} , and chord \overline{AB} is drawn.

Prove: $\frac{BC}{CA} = \frac{AB}{EC}$



3. In the diagram below, secant \overline{ACD} and tangent \overline{AB} are drawn from external point A to circle O . Prove the theorem: If a secant and a tangent are drawn to a circle from an external point, the product of the lengths of the secant segment and its external segment equals the length of the tangent segment squared. ($AC \cdot AD = AB^2$)



4. Given: Circle O , chords \overline{AB} and \overline{CD} intersect at E

Theorem: If two chords intersect in a circle, the product of the lengths of the segments of one chord is equal to the product of the lengths of the segments of the other chord. Prove this theorem by proving $AE \cdot EB = CE \cdot ED$.

