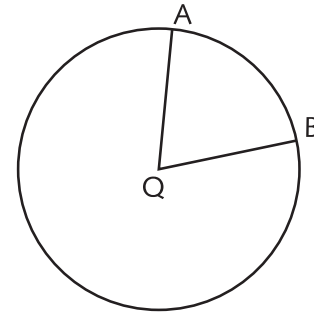


STRIKE A CHORD

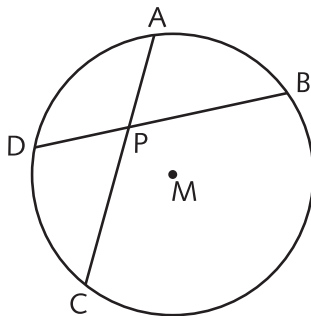
Recognizing Pervasive Patterns

1. a) Measure $\angle Q$ and arc \widehat{AB} . Designate three points C , C' & C'' on circle Q such that the three points are NOT on arc \widehat{AB} . Measure $\angle AC'B$. What do you notice?



- b) Draw circle T . Designate two points A & B anywhere on circle T . Designate one more point C on circle T such that the point is NOT on arc \widehat{AB} . Measure the two angles shown. Do these measurements support your conjecture?

For two chords intersecting on a circle, the measure of the inscribed angle is _____

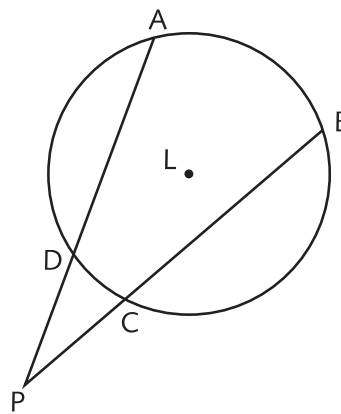


2. a) For circle M , measure arcs \widehat{AB} and \widehat{DC} and $\angle APB$. What do you notice?

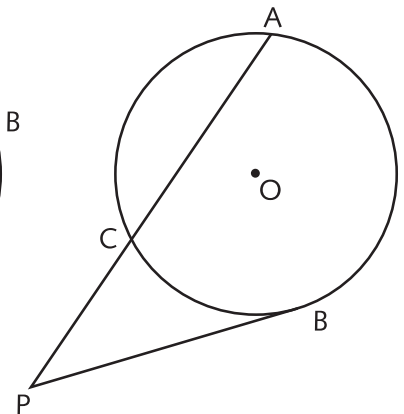
- b) Draw circle S . Designate four points A , B , C & D on circle S . Draw chords \overline{AC} & \overline{BD} intersecting at point P . Use the diagram to verify your conjecture.

For two chords intersecting in the interior of a circle, the measure of the angle of intersection is _____

3. a) In circle L , measure arcs \widehat{AB} and \widehat{DC} and $\angle APB$. What do you notice?



- b) Draw circle R . Designate four points A , B , C & D on circle R . Draw secants \overline{AD} & \overline{BC} intersecting at point P . Use the diagram to verify your conjecture.



4. a) In circle O , measure arcs \widehat{AB} and \widehat{BC} and $\angle APB$. What do you notice?

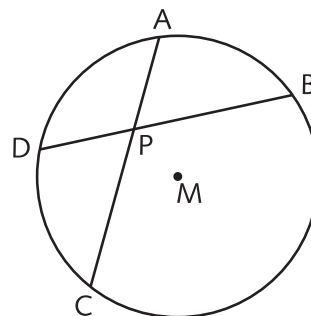
- b) Draw circle W . Designate three points A , B , & C on circle W . Draw secants \overline{AP} & tangent \overline{BP} intersecting at point P . Use the diagram to verify your conjecture.

For two secants or a secant and a tangent intersecting in the exterior of a circle, the measure of the angle of intersection is _____

STRIKE A CHORD

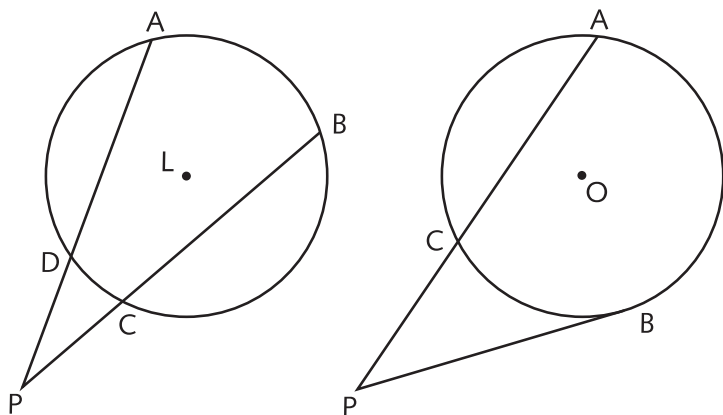
Recognizing Pervasive Patterns

1. a) For circle M, measure segments \overline{AP} , \overline{BP} , \overline{CP} & \overline{DP} . What do you notice?



b) Draw circle S. Designate four points A, B, C & D on circle S. Draw chords \overline{AC} & \overline{BD} intersecting at point P. Use the diagram to verify your conjecture.

For two chords intersecting in the interior of a circle, _____



2. a) In circle L, measure segments \overline{PA} , \overline{PB} , \overline{PC} & \overline{PD} . What do you notice?

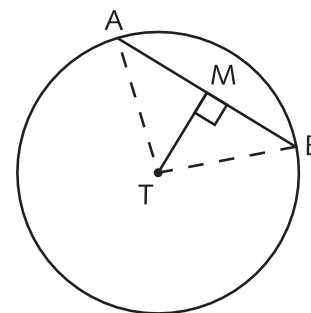
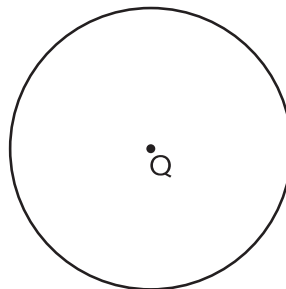
b) Draw circle R. Designate four points A, B, C & D on circle R. Draw secants \overline{AD} & \overline{BC} intersecting at point P. Use the diagram to verify your conjecture.

3. a) In circle O, measure segments \overline{AP} , \overline{BP} & \overline{CP} . What do you notice?

b) Draw circle W. Designate three points A, B, & C on circle W. Draw secants \overline{AP} & tangent \overline{BP} intersecting at point P. Use the diagram to verify your conjecture.

For two secants or a secant and a tangent intersecting in the exterior of a circle, _____

4. a) In circle Q, draw any chord. Then draw a radius from the center of the circle perpendicular to the chord. What do you notice about the two segments of the chord?



b) Prove the conjecture above; given circle T with $MT \perp AB$, prove that $AM \cong BM$.

A radius perpendicular to a chord _____