## Unit 7 Lesson 2: Inscribed Angles

### 1 Notice and Wonder: A New Angle (Warm up)

#### Student Task Statement

What do you notice? What do you wonder?



### 2 A Central Relationship

#### Student Task Statement

Here is a circle with central angle $QAC$.



1. Use a protractor to find the approximate degree measure of angle $QAC$.
2. Mark a point $B$ on the circle that is *not* on the highlighted arc from $C$ to $Q$. Each member of your group should choose a different location for point $B$. Draw chords $BC$ and $BQ$. Use a protractor to find the approximate degree measure of angle $QBC$.
3. Share your results with your group. What do you notice about your answers?
4. Make a conjecture about the relationship between an **inscribed angle** and the central angle that defines the same arc.

#### Activity Synthesis







$m∠BCA=\frac{1}{2}m∠BOA$



### 3 Similarity Returns

#### Student Task Statement

The image shows a circle with chords $CD,CB,ED,$ and $EB$. The highlighted arc from point $C$ to point $E$ measures 100 degrees. The highlighted arc from point $D$ to point $B$ measures 140 degrees.

Prove that triangles $CFD$ and $EFB$ are similar.



#### Images for Activity Synthesis





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