

TI-Nspire Technology Lesson



Unit 8: Verifying the Angle Properties

On your calculator, press  > 7: My Documents, then open file **u08_413**.

Verifying the Property of Inscribed and Central Angles

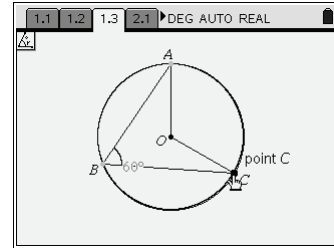
On page 1.3, point O is the centre of the circle.

1. Measure the inscribed and central angles.

- Press , then select **7: Measurement > 4: Angle**.
- Click on points A, B, and C in order to construct $\angle ABC$.
- Click on points A, O, and C in order to construct $\angle AOC$.
- Press .

What do you notice?

The measure of $\angle ABC$ is one-half the measure of $\angle AOC$.



2. Drag point B along major arc AC.

Does the measure of $\angle ABC$ change?

No, the measure of $\angle ABC$ is always the same.

3. Drag point A or C around the circle, making sure $\angle ABC$ and $\angle AOC$ always subtend the same minor arc AC.

What do you notice about the angle measure relationship?

What property does this verify?

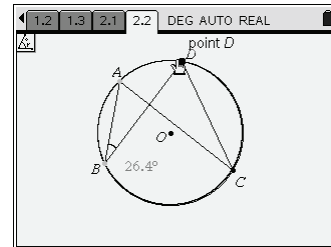
The measure of $\angle ABC$ is always one-half the measure of $\angle AOC$. This verifies the property of inscribed and central angles.

Verifying the Property of Inscribed Angles Subtended by the Same Arc

On page 2.2, point O is the centre of the circle.

1. Measure $\angle ABD$ and $\angle ACD$.

- Press **menu**, then select **7: Measurement > 4: Angle**.
- Click on points A, B, and D in order to construct $\angle ABD$.
- Click on points A, C, and D in order to construct $\angle ACD$.
- Press **esc**.



What do you notice?

The angle measures are the same.

2. Drag the point C along major arc AD.

What do you notice about the angle measures?

What property does this verify?



The measures of $\angle ABD$ and $\angle ACD$ are always equal.

This verifies the property of inscribed angles subtended by the same arc.


Additional Teacher Notes

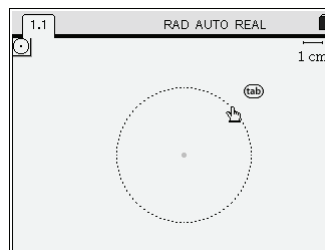
Performing constructions related to this technology lesson on a TI-Nspire

To insert a graphs & geometry page:


- Press  > **2: Graphs & Geometry**.
- Press , then select **2: View > 2: Plane Geometry View**.

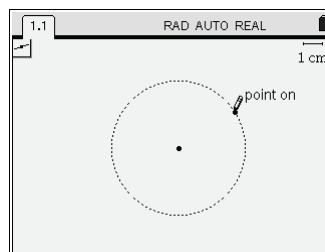
To construct a circle:

- Press , then select **8: Shapes > 1: Circle**.
- Move the cursor to the centre of the page, click once to place the centre of the circle, then move the cursor and click a second time to indicate the size of the circle.
- To move the circle, drag the centre of the circle.
To resize the circle, drag the circle.







To construct a point on a circle:

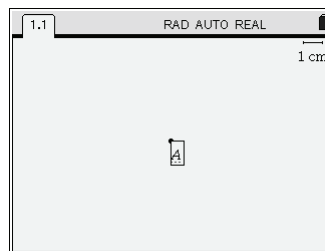
- Press , then select **6: Points & Lines > 2: Point On**.
- Hover the cursor over the circle, then click once.




To label a point:

- Hover the cursor over the point.
Press  , and select **2: Label**.
- Type the label and press .

Technology Tip:
To enter a capital letter, press , then press the letter.



To join two points:

- Press , then select **6: Points & Lines > 5: Segment**.
- Click both points.

