1. Using the "Polygon Tool", construct triangle ABC.

2. Construct the midpoint of AB, name point D. Then construct the midpoint of BC, name point E.

3. Construct segment DE.

$\overline{DE}$ *is a MIDSEGMENT, which is the segment between the midpoints of two sides of a triangle.*

Part I –

1. Measure the length of $\overline{DE}$. Measure the length of $\overline{AC}$.

   DE = _____   AC = _____

2. Drag point A or point C to change your triangle and record the new measurements.

   DE = _____   AC = _____

   DE = _____   AC = _____

3. Compare your results. Make a conjecture...

   The length of a midsegment is _____

   _____

Part II –

1. Calculate the slopes of $\overline{DE}$ and $\overline{AC}$.

Slope of DE = _____   Slope of AC = _____

2. Drag point A or point C to change your triangle and observe the new slope values. Think…

   What do you notice? What does this mean?

3. Make a conjecture…

   The midsegment _____

   _____