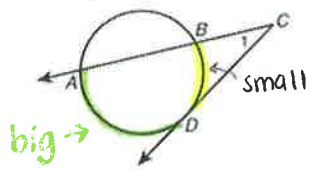
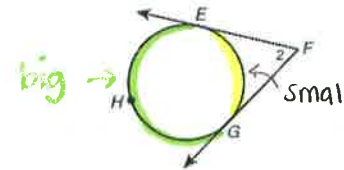
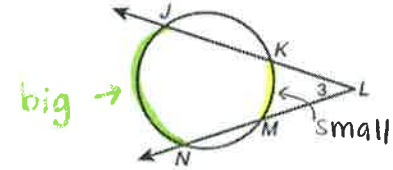


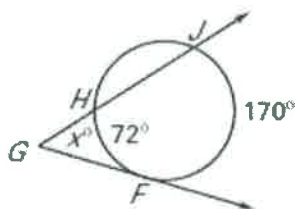


- I can find the measures of angles "OUT" of a circle

<p>If two segments intersect in the exterior of a circle, then the measure of the angle formed is <u>half of the difference</u> of the measures of its intercepted arcs.</p> <p>outside angle = $\frac{1}{2}(\text{big arc} - \text{small arc})$</p>	<p>A tangent and a secant</p>  $m\angle 1 = \frac{1}{2}(m\widehat{AD} - m\widehat{BD})$
	<p>Two tangents</p>  $m\angle 2 = \frac{1}{2}(m\widehat{EHG} - m\widehat{EG})$
	<p>Two secants</p>  $m\angle 3 = \frac{1}{2}(m\widehat{JN} - m\widehat{KM})$

Example 1 : Please find the value of x in the following diagrams.

a)

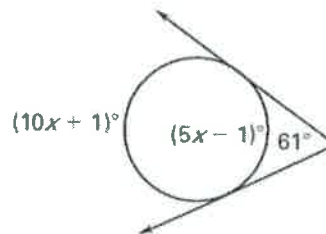


$$x = \frac{1}{2}(170 - 72)$$

$$x = \frac{1}{2}(98)$$

$$x = 49^\circ$$

b)



$$61 = \frac{1}{2}(10x + 1 - (5x - 1))$$

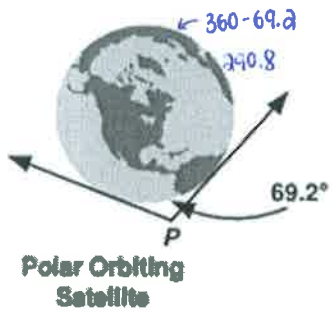
$$61 = \frac{1}{2}(10x + 1 - 5x + 1)$$

$$61 = \frac{1}{2}(5x + 2)$$

$$122 = 5x + 2$$

$$120 = 5x \Rightarrow x = 24$$

- c) A polar orbiting satellite is about 850 kilometers above Earth. About 69.2 arc degrees of the planet are visible to a camera in the satellite. What is $m\angle P$?



$$m\angle P = \frac{1}{2} (290.8 - 69.2)$$

$$m\angle P = \frac{1}{2} (221.6)$$

$$m\angle P = 110.8^\circ$$