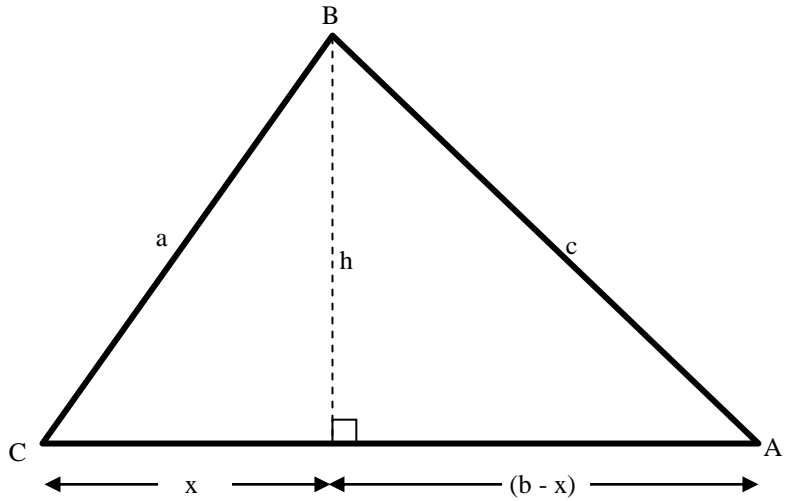
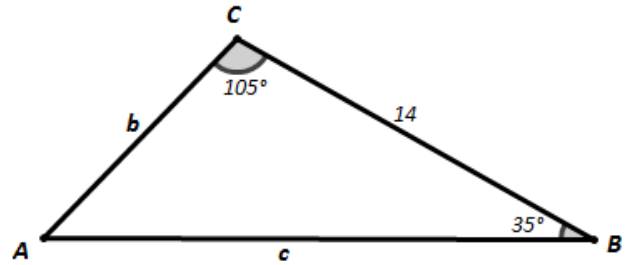
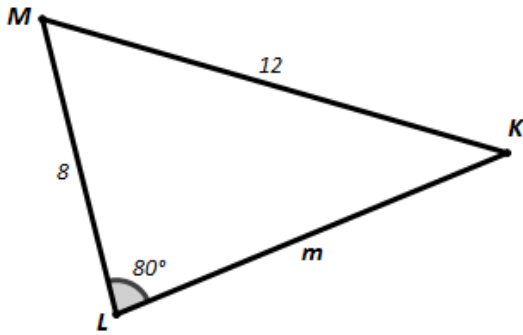


**Law of Sines:** Start with  $\sin(A)$  and  $\sin(C)$ .

**PROOF:**



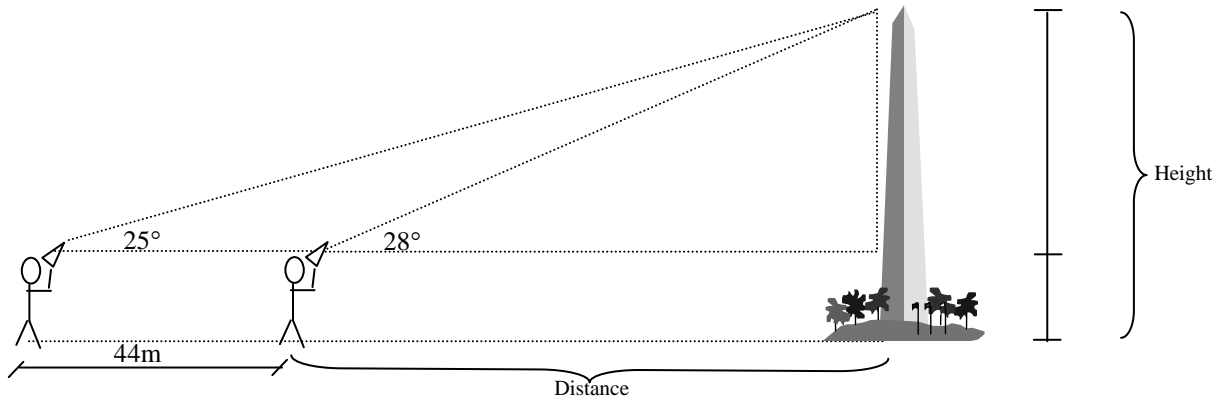
1. Find the unknown sides and angles of each triangle using the **Law of Sines**.



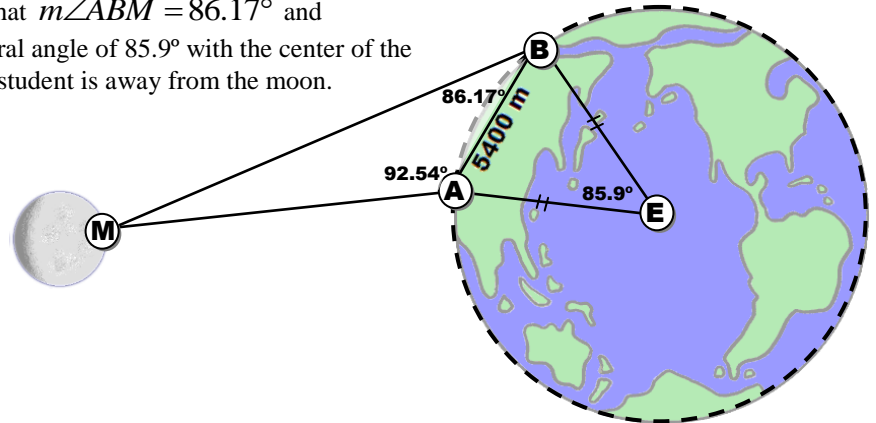
m	
$m\angle M$	
$m\angle K$	

c	
b	
$m\angle A$	

2. A student was trying to determine the height of the Washington monument from a distance. So, he measured two angles of elevation 44 meters apart. The angle of elevation the furthest away from the monument measured to be  $25^\circ$  and the closest angle of elevation measured  $28^\circ$ . The student determining the angles is 1.6 Meters tall from his feet to his eyeballs. Find the Height =  Distance away =



8. Two students that are on the same longitudinal line are approximately 5400 miles apart. They used an inclinometer, a little geometry, and a tangent line to determine that  $m\angle ABM = 86.17^\circ$  and  $m\angle BAM = 92.54^\circ$ . The two students form a central angle of  $85.9^\circ$  with the center of the earth. Given this information determine how far each student is away from the moon.



Use this information to find the radius of the Earth and then the circumference ( $C = 2\pi r$ ).