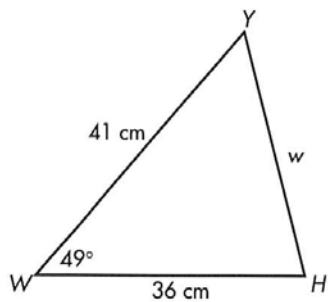


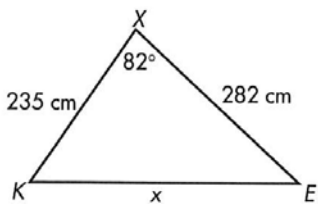
## **8.9 – The Law of Cosines**

Find the length of each indicated side to the nearest tenth.

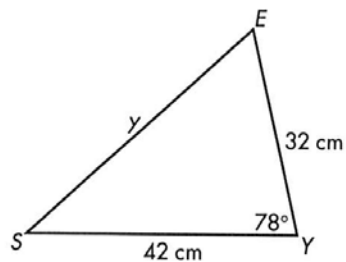
1)  $w =$  -?-



2)  $x =$  -?-

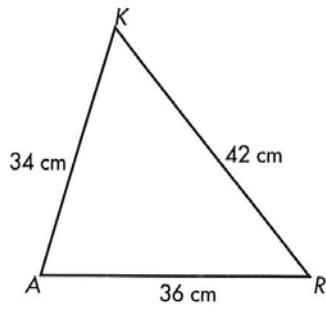


3)  $y =$  -?-

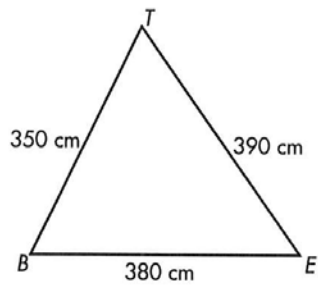


Find the measure of each indicated angle in each acute triangle to the nearest degree.

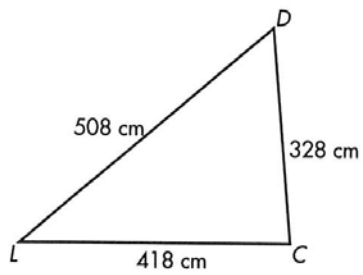
4)  $m\angle A = -?-$



5)  $m\angle B = -?-$



6)  $m\angle C = -?-$



- 7) To the nearest degree, find the measure of the smallest angle in a triangle whose side lengths are 4 m, 7 m, and 8 m.
- 8) A cargo company needs to load truck trailers into ship cargo containers. The trucks must drive up a ramp to a loading platform 30 ft off the ground, but they have difficulty driving up a ramp at an angle steeper than  $20^\circ$ . How long does the ramp need to be?
- 9) A lighthouse 55 meters above sea level spots a distress signal from a sailboat. The angle of depression to the sailboat measures  $21^\circ$ . To the nearest meter, how far away is the sailboat from the base of the lighthouse?