

**Learning Target 46 Homework**

"I can use the Law of Cosines."

1) In $\triangle ABC$, $AB = 7$, $BC = 10$, and $m\angle B = 80$. What is b ? *Round to the nearest tenth.*

2) In $\triangle ABC$, $AC = 15$, $BC = 12$ and $m\angle C = 32$. Ragnar solved for c . Explain his error in one to two complete sentences.

$$\begin{aligned} C &= 12^2 + 15^2 - 2(12)(15)\cos 32^\circ \\ C &= 369 - 360\cos 32^\circ \\ C &= 63.7 \end{aligned}$$

3) In $\triangle QRS$, $QR = 31.9$, $RS = 25.2$, and $QS = 37.6$. What is $m\angle R$? *Round to the nearest degree.*

4) In $\triangle WXY$, $m\angle X = 38$, $WX = 11$, and $XY = 16$. What is WY ? *Round to the nearest tenth.*

5) In $\triangle AJM$, $AJ = 20.4$, $JM = 16.4$, and $AM = 25.3$. What is $m\angle A$? Round to the nearest degree.

6) Nepal has the only non-rectangular country flag. $NL = 35$ cm, $LE = 27$ cm, and $EN = 18$ cm. What is $m\angle N$? Round to the nearest degree.



7) An air traffic controller is tracking a plane 2.1 kilometers due south of the radar tower. A second plane is located 3.5 kilometers from the tower at a heading of $N 75^\circ E$ (75° east of north). How far apart are the two planes? Round to the nearest tenth of a kilometer.

