Geometry Name _____ Hour _____

8.6 Law of Sines - draw pictures and work on back or separate paper

**Find each measure using the given measures of $\triangle XYZ$. Round angle measures to the nearest degree and side measures to the nearest tenth.**

**2.** If $y = 12.1$, $m\angle X = 57$, and $m\angle Z = 72$, find $x$.

**Find each measure using the given measures of $\triangle KLM$. Round angle measures to the nearest degree and side measures to the nearest tenth.**

**15.** If $k = 10$, $m = 4.8$, and $m\angle K = 96$, find $m\angle M$.

**16.** If $m\angle M = 59$, $\ell = 8.3$, and $m = 14.8$, find $m\angle L$.

**18.** If $m\angle M = 61$, $m\angle K = 31$, and $m = 5.4$, find $\ell$.

**Solve each $\triangle WXY$ described below. Round measures to the nearest tenth.**

**24.** $m\angle W = 36$, $m\angle Y = 62$, $w = 3.1$

**31. SURVEYING** Maria Lopez is a surveyor who must determine the distance across a section of the Rio Grande Gorge in New Mexico. On one side of the ridge, she measures the angle formed by the edge of the ridge and the line of sight to a tree on the other side of the ridge. She then walks along the ridge 315 feet, passing the tree and measures the angle formed by the edge of the ridge and the new line of sight to the same tree. If the first angle is 80° and the second angle is 85°, find the distance across the gorge.

**34. FIND THE ERROR** Makayla and Felipe are trying to find $d$ in $\triangle DEF$. Who is correct? Explain your reasoning.

Makayla

$\sin 59° = \frac{d}{12}$

Felipe

$\frac{\sin 59°}{d} = \frac{\sin 48°}{12}$