Name _____ Date _____

Triangles (Similarity and Congruence)- Guided Lesson Explanation

Explanation#1

The AA similarity theorem states that two triangles are similar if and only if two angles of one triangle are congruent to two angles of the other triangles.

Since $m\angle E = m\angle P = 33^o$ and $m\angle F = m\angle Q = 45^o$, $\angle E \cong \angle P$ and $\angle F \cong \angle Q$

Therefore, by the AA similarity theorem the triangles are similar.

So these triangles are similar and the similarity statement is

$\Delta EFG \sim \Delta PQR$.

Explanation#2

$\Delta NOP \sim \Delta HIJ$ means that ΔNOP is similar to ΔHIJ. And the sides of similar triangles are proportional.

So, $\frac{OP}{HJ} = \frac{ON}{HI}$

$$\frac{?}{12} = \frac{1}{6}$$

$? = \frac{12 \times 1}{6}$

$? = \frac{12}{6}$

$? = 2$

So the missing length is 2 centimeters.

Explanation#3

Since $m\angle S = m\angle M = 79^o$ and $\angle T = 64^o$,$\angle N = 60^o$.

So $m\angle T \neq m\angle N$

As a result, these triangles are not similar.