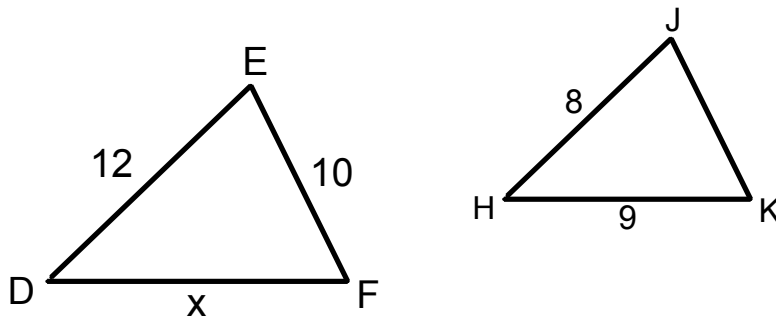


## Bellwork

### 12/06/2011

1. In the diagram,  $\triangle DEF \sim \triangle HJK$ . Find the value of  $x$ .



$$\frac{12}{8} = \frac{x}{9}$$

$$8x = 108$$

$$x = 13.5$$

**Geometry**  
**6.4 Prove Triangles Similar by AA**  
**Standard(s): 3,4**

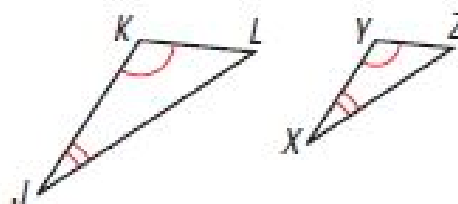
## Vocabulary:

### POSTULATE

*For Your Notebook*

#### POSTULATE 22 Angle-Angle (AA) Similarity Postulate

If two angles of one triangle are congruent to two angles of another triangle, then the two triangles are similar.



$\triangle JKL \sim \triangle XYZ$

## Complete a Statement

Complete the statement.

1.  $MON \sim \underline{GHI}$

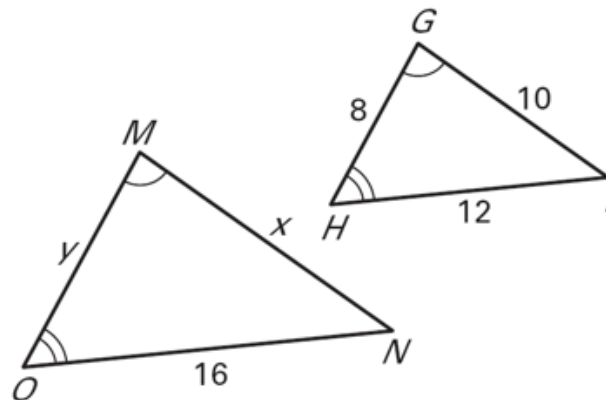
2.  $\frac{MN}{GI} = \frac{ON}{HI} = \frac{MO}{GH}$

3.  $\frac{12}{16} = \frac{8}{y}$

4.  $\frac{16}{12} = \frac{x}{10}$

5.  $x = \underline{13\frac{1}{3}}$

6.  $y = \underline{10\frac{2}{3}}$



$$12y = 128$$

$$y = 10\frac{2}{3}$$

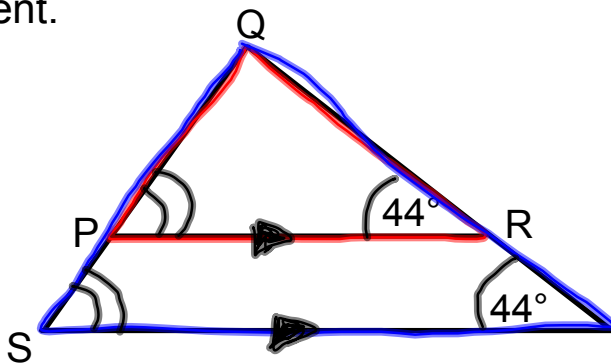
$$12x = 160$$

$$x = 13\frac{1}{3}$$

## Show that Triangles are Similar

Show that the two triangles are similar. Then write a similarity statement.

A.

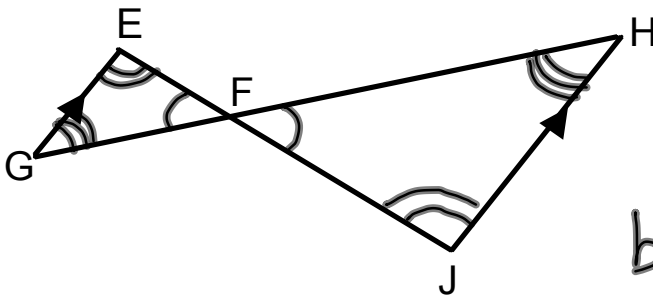


$\overline{PR} \parallel \overline{ST}$  by  
corresponding  
 $\sphericalangle$ 's converse.

So,  $\angle QPR \cong \angle QST$   
by the corresponding  
 $\sphericalangle$ 's post.

Then,  $\triangle QPR \sim \triangle QST$   
by AA  $\sim$  post.

B.

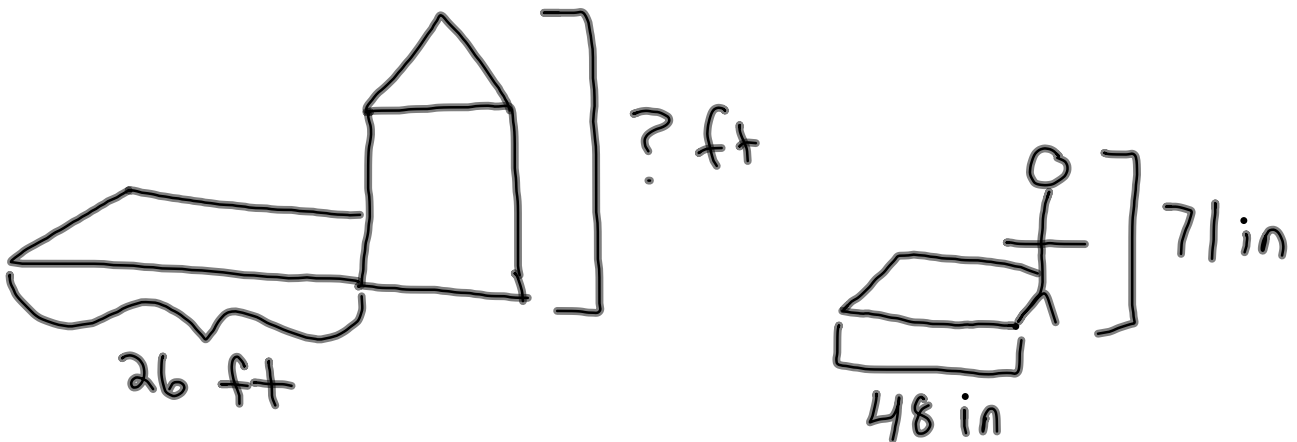


$\angle EFG \cong \angle JFH$   
by the vertical  $\sphericalangle$ 's  
 $\cong$  thm.  $\angle E \cong \angle J$   
by the alternate  
interior  $\sphericalangle$ 's thm.

$\triangle EFG \sim \triangle JFH$   
by the AA  $\sim$  Post.

## Solve a Real-World Problem

A school building casts a shadow that is 26 feet long. At the same time a student standing nearby, who is 71 inches tall, casts a shadow that is 48 inches long. How tall is the building to the nearest foot?



$$\frac{71 \text{ in.}}{x \text{ ft.}} = \frac{48 \text{ in.}}{26 \text{ ft.}}$$

$$48x = 1846$$

$$x \approx 38 \text{ ft}$$

# Homework Assignment

## Worksheet 6.4B

