

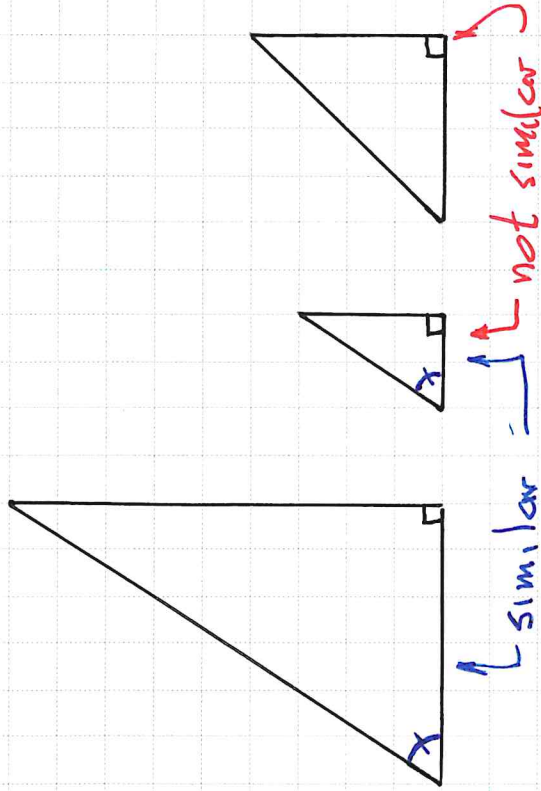
Math 27, HW #20

Selected Problems

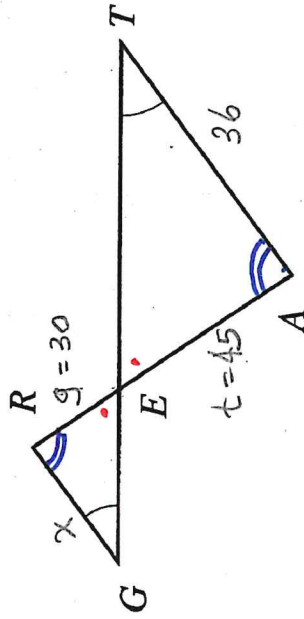
For exercises 1–4, state whether the two triangles are *always*, *sometimes*, or *never* similar.

2. Two right triangles.

Sometimes



6. Consider the triangles shown below.



- Name the similar triangles.
- Write an extended proportion that is true for these triangles.
- If $g = 30$, $AT = 36$, and $t = 45$, find GR .

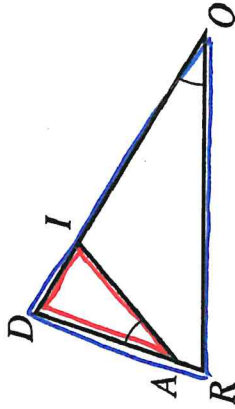
a) $\triangle GRE \sim \triangle TAE$

b) $\frac{GR}{TA} = \frac{GE}{TE} = \frac{RE}{AE}$

c) $\frac{x}{36} = \frac{30}{45} = \frac{2}{3}$

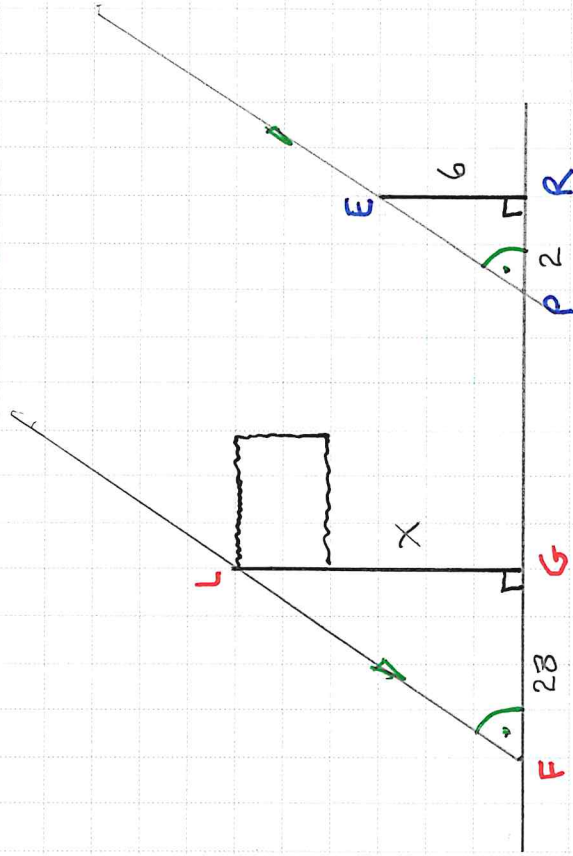
$\Rightarrow 3x = 36(2) \Rightarrow x = 24$

7. Name the similar triangles in the figure.



$\triangle RDO \sim \triangle IOA$

9. A flagpole casts a shadow of 28 feet at the same time the shadow of a person 6 feet tall is 2 feet long. How tall is the flagpole?



$\triangle FGL \sim \triangle ERH$

$$\frac{x}{6} = \frac{28}{2} = 14$$

$$\Rightarrow x = 6 \cdot 14 = \boxed{84 \text{ ft.}}$$