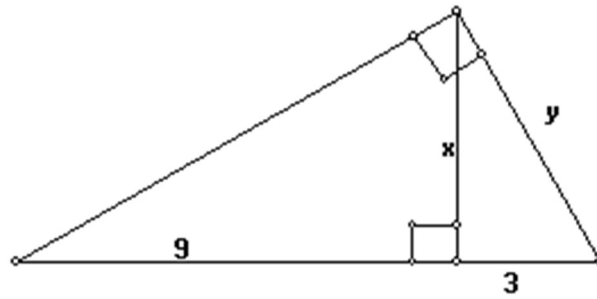


Problem #1

Solve for x and y



Problem #2

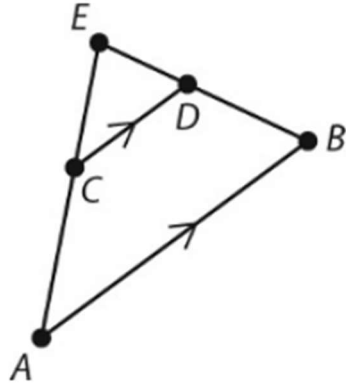
$\triangle CAT$ maps to $\triangle DOG$ with the following transformation:

$$(x, y) \rightarrow \left(\frac{1}{2}x, \frac{1}{2}y\right)$$

- If $m\angle A = 20$ and $m\angle D = 83$, what is $m\angle G$?
- Given $T(6, -3)$, where is point G ?
- If $DO = 15$, what is CA ?

Problem #3

In $\triangle AEB$, \overline{CD} is parallel to \overline{AB} .



a) Complete the proportions.

$$\frac{ED}{DB} =$$

$$\frac{EA}{CA} =$$

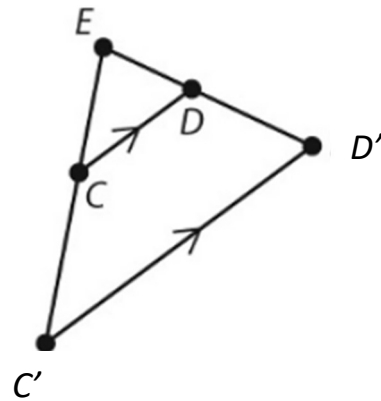
b) If $EC = 5$, $CA = 8$, & $DB = 6$, solve for ED :

Problem #4

$\overline{C'D'}$ is a dilation of \overline{CD} . $ED=10$, $DD'=15$

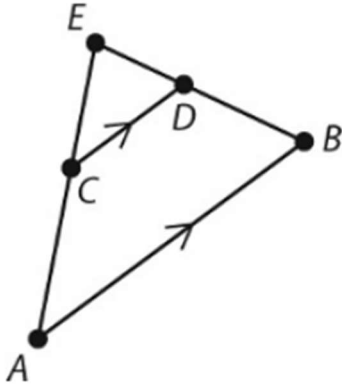
a) What is the scale factor of the dilation?

b) Reduction or Enlargement?



Problem #5

In $\triangle AEB$, \overline{CD} is parallel to \overline{AB} .



a) Are $\triangle AEB$ and $\triangle CED$ similar?
If yes, by what property?

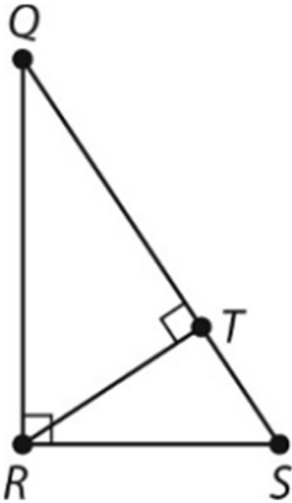
b) $CE = 4$, $AC = 6$ and $CD = 5$.
Solve for AB .

Problem #6

A flagpole 12.5 feet tall casts a shadow 8 feet 3 inches long. At the same time, a building nearby casts a shadow 31 feet 5 inches long. How tall is the building?

Problem #7

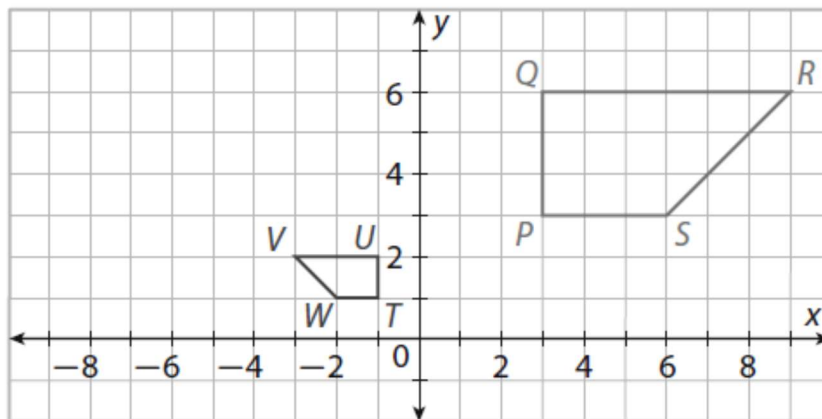
Complete the similarity statement for the triangles.



$$\triangle QRS \sim \triangle \underline{\hspace{2cm}} \sim \triangle \underline{\hspace{2cm}}$$

Problem #8

a. Describe a sequence of transformations that maps PQRS to TUVW.



b. Provide the coordinate notation for each transformation.