

Name: _____ Date: _____

Similarity Review - Homework

1) Given $\overline{BD} \parallel \overline{AE}$, find DE and CE.

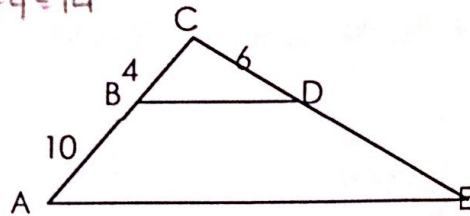
$\overline{AC} = 10 + 4 = 14$

$\frac{4}{14} = \frac{6}{x}$

$21 - 6 = \overline{DE}$
 $15 = \overline{DE}$

$4x = 84$

$x = 21 = \overline{CE}$



2) A model of a building has a scale of 2 in to 15 ft.

If the model is 5 in tall, how tall is the actual building?

$\frac{2}{15} = \frac{5}{x}$

$75 = 2x$
 $37.5 = x$

3) In the diagram, $\triangle CAT \sim \triangle DOG$. Use the diagram to find each of the following.

a) Scale factor of $\triangle CAT$ to $\triangle DOG$ (Simplify if necessary)

Scale Factor = $\frac{2}{3}$

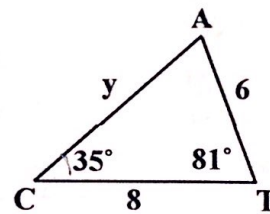
$\frac{8}{12} = \frac{2}{3}$

$\frac{y}{15} = \frac{8}{12}$
 $120 = 12y$
 $10 = y$

b) Find x and y (Show Work!)

$x = 9$

$y = 10$



c) Find $m\angle D = 35^\circ$

$180 - 116 = 64$

$35 + 81 = 116$

d) Find $m\angle O = 64^\circ$

$\frac{8}{12} = \frac{6}{x}$

$8x = 72$

$x = 9$

e) Find the perimeter of $\triangle CAT = 24$
 $10 + 6 + 8 = 24$

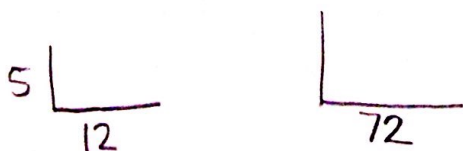
Find the perimeter of $\triangle DOG = 36$
 $15 + 9 + 12$

$\frac{24}{36} = \frac{2}{3}$

$\frac{2}{3}$

f) What is the ratio of the perimeter of $\triangle CAT$ to the perimeter of $\triangle DOG$? $\frac{2}{3}$

4) A boy who is 5 ft. tall cast a shadow that is 12 ft long. At the same time, a building nearby cast a shadow that is 72 ft long. How tall is the building? Draw a picture!



$\frac{5}{12} = \frac{x}{72}$

$360 = 12x$

$30 = x$