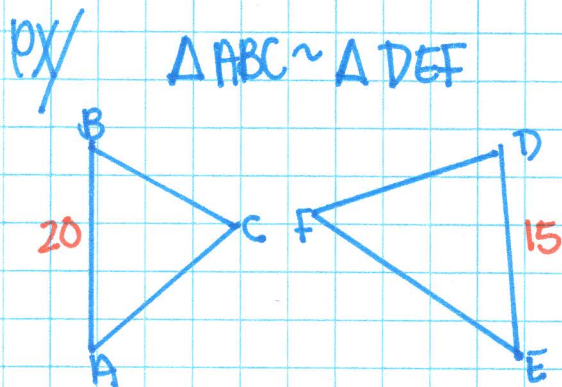


# Ch. 7 Perimeter and Area Similarity #14

## I. Using Similarity to determine Perimeter & Area.

A. You need to find SCALE first  
(create a fraction from matching sides)



Scale?

Top  $\rightarrow \triangle ABC \rightarrow AB$   
Bottom  $\rightarrow \triangle DEF \rightarrow DE$

$$\frac{20}{15} = \frac{4}{3}$$

B. Now, create perimeter and Area fractions

$$\frac{P \text{ of 1st } \triangle}{P \text{ of 2nd } \triangle}$$

$$\frac{A \text{ of 1st } \triangle}{A \text{ of 2nd } \triangle}$$

## C. The Rules for Solving

1. perimeter fraction equals scale
2. Area fraction equals scale squared.

Area

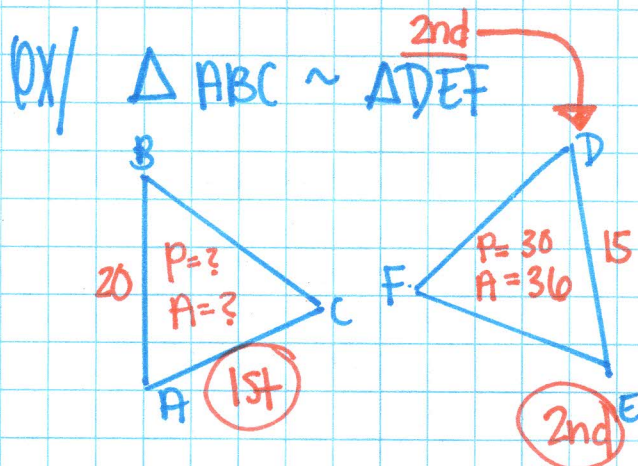
$$\begin{array}{l} \text{1st} \rightarrow A? \\ \text{2nd} \rightarrow 36 \end{array} \quad \frac{A}{36} = \left(\frac{4}{3}\right)^2$$

$$\frac{A}{36} = \frac{16}{9}$$

Perimeter  $A = 64$

1st  $\rightarrow p?$

2nd  $\rightarrow 30$



scale  $\rightarrow \frac{4}{3}$

~~$\frac{P}{30} = \frac{4}{3}$~~   
 $3p = 120$   
 $p = 40$

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