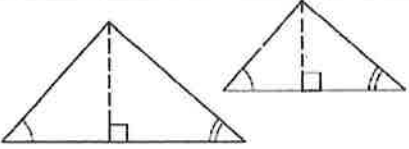
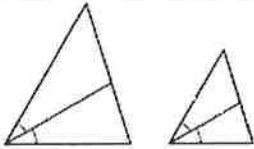
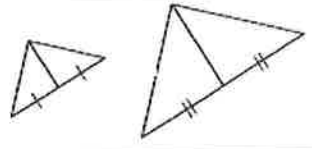


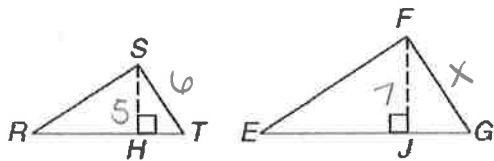
## PARTS OF SIMILAR TRIANGLES NOTES

When two triangles are similar, corresponding altitudes, angle bisectors, medians and perimeters are proportional to the corresponding sides.

Altitude	Angle Bisector	Median
		
<p>A segment that starts at a vertex and forms a right angle with the opposite side.</p>	<p>A segment that divides an angle into two smaller congruent angles.</p>	<p>A segment that connect the vertex of a triangle to the midpoint of the opposite side.</p>

Examples: Find x for each pair of similar triangles.

A)

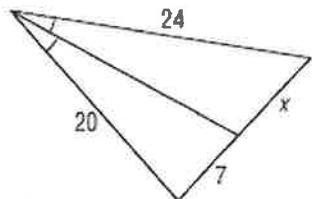


$$\frac{5}{7} = \frac{6}{x}$$

$$42 = 5x$$

$$x = 8.4$$

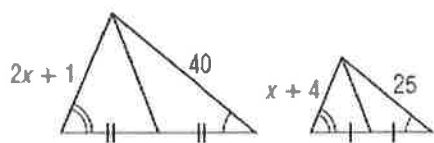
C)



$$\frac{1}{20} = \frac{x}{24}$$

$$x = 8.4$$

E)



$$\frac{2x+1}{x+4} = \frac{40}{25}$$

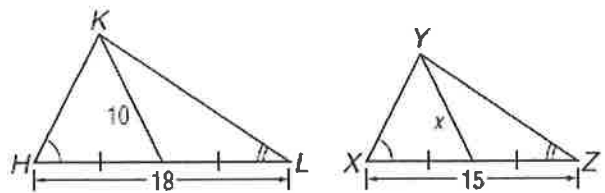
$$\frac{2x+1}{x+4} = \frac{8}{5}$$

$$10x + 5 = 8x + 32$$

$$2x = 27$$

$$x = 13.5$$

B)

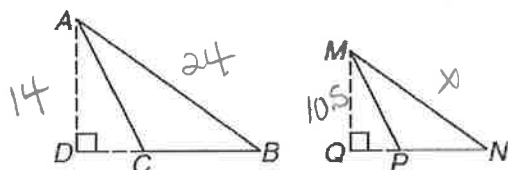


$$\frac{10}{x} = \frac{18}{15}$$

$$18x = 150$$

$$x = 8.\overline{33}$$

D)



$$\frac{14}{10.5} = \frac{24}{x}$$

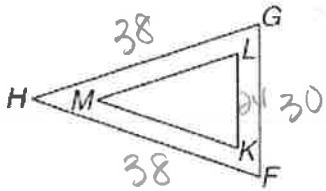
$$252 = 14x$$

$$x = 18$$

## PARTS OF SIMILAR TRIANGLES NOTES

Examples: Find the perimeter of the indicated triangle given that the two triangles are similar.

F)  $\triangle KLM$  if  $FG = 30$ ,  $GH = 38$ ,  $HF = 38$ , and  $KL = 24$ .



$$\frac{24}{30} = \frac{4}{5}$$

$$\frac{4}{5} = \frac{x}{38}$$

$$5x = 152$$

$$x = 30.4$$

$$km = lm = 30.4$$

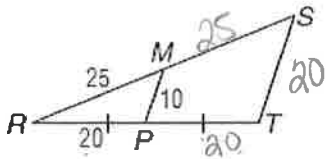
$$30.4$$

$$+ 30.4$$

$$+ 24$$

$$\boxed{84.8 = p}$$

G)  $\triangle RST$  if  $MR = 25$ ,  $PR = 20$ , and  $MP = 10$ .



$$\frac{20}{10} = \frac{40}{ST}$$

$$20x = 400$$

$$x = 20$$

$$\frac{20}{40} = \frac{25}{x+25}$$

$$\frac{1}{2} = \frac{25}{x+25}$$

$$x+25 = 50$$

$$x = 25$$

$$40 + 50 + 20 = \boxed{110 = p}$$