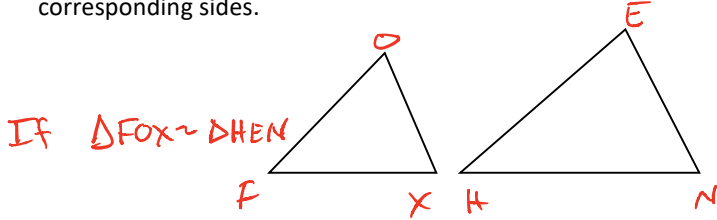


Similarity – Parts of Similar Triangles

Notes Section 7.5

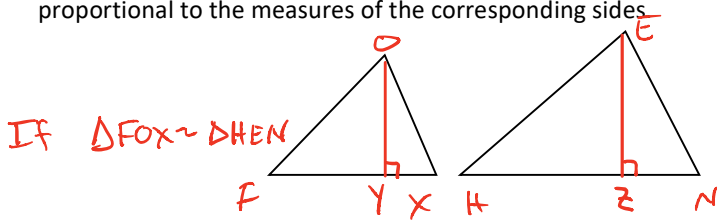
Name _____

Proportional Perimeter Theorem: If two triangles are similar, then the perimeters are proportional to the measures of corresponding sides.



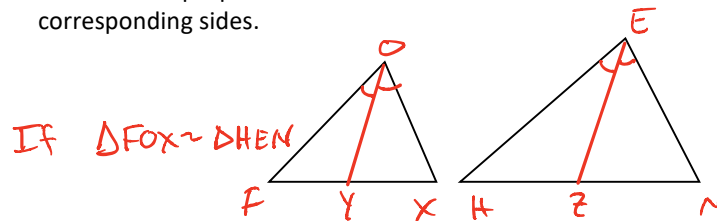
, then $\frac{FO}{HE} = \frac{OX}{EN} = \frac{FX}{HN} = \frac{P_{\triangle FOX}}{P_{\triangle HEN}}$

Proportional Altitudes Theorem: If two triangles are similar, then the measures of the corresponding altitudes are proportional to the measures of the corresponding sides.



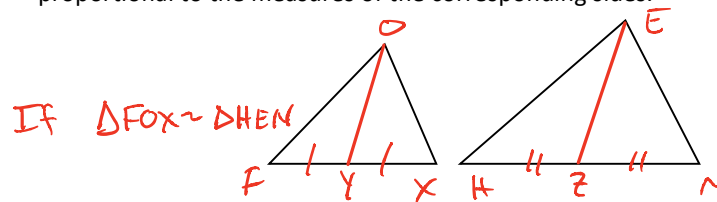
, then $\frac{FO}{HE} = \frac{OX}{EN} = \frac{FX}{HN} = \frac{OY}{EZ}$

Proportional Angle Bisectors Theorem: If two triangles are similar, then the measures of the corresponding angle bisectors are proportional to the measures of the corresponding sides.



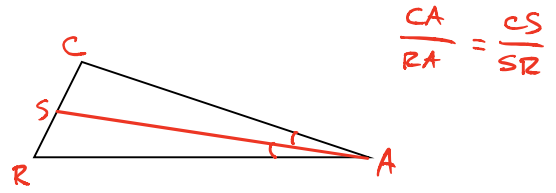
, then $\frac{FO}{HE} = \frac{OX}{EN} = \frac{FX}{HN} = \frac{OY}{EZ}$

Proportional Medians Theorem: If two triangles are similar, then the measures of the corresponding medians are proportional to the measures of the corresponding sides.

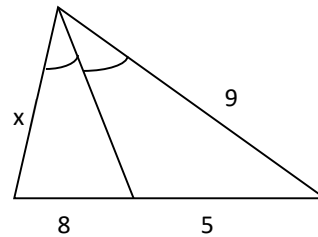


, then $\frac{FO}{HE} = \frac{OX}{EN} = \frac{FX}{HN} = \frac{OY}{EZ}$

Angle Bisector Theorem: An angle bisector in a triangle separates the opposite side into segments that have the same ratio as the other two sides.

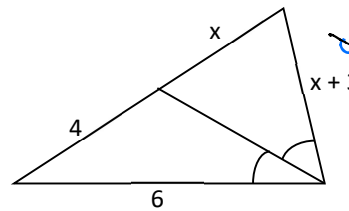


#1) Find the value of x.



$\frac{x}{8} = \frac{9}{5}$
 $x = \frac{9(8)}{5}$
 $x = \frac{72}{5}$

#2) Find the value of x.



$\frac{4}{x+3} = \frac{x}{6}$

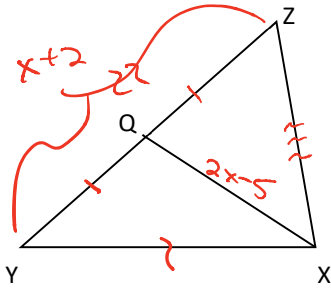
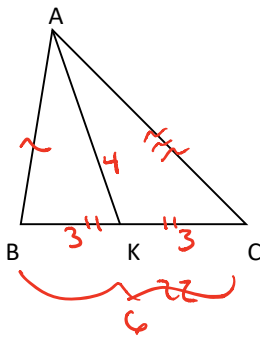
$4x + 12 = 6x$
 $12 = 2x$
 $6 = x$

Similarity – Parts of Similar Triangles

Notes Section 7.5

Name _____

#3) $\triangle ABC$ is similar to $\triangle XYZ$. Segments \overline{AK} and \overline{QX} are medians of the triangles.
 $AK = 4$, $BK = 3$, $YZ = x + 2$, $QX = 2x - 5$. Find QZ .



$$\frac{x+2}{6} = \frac{2x-5}{4}$$

$$4x + 8 = 12x - 30$$

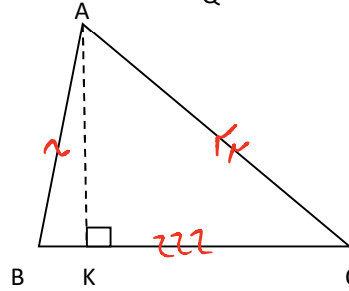
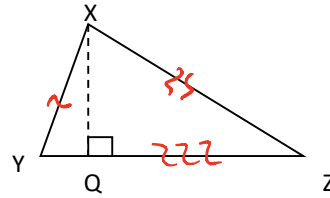
$$8 = 8x - 30$$

$$38 = 8x$$

$$\frac{38}{8} = x$$

$$\frac{19}{4} = x$$

$\triangle ABC$ is similar to $\triangle XYZ$. Determine if each proportion is true or false.



#4) $\frac{AB}{XY} = \frac{AC}{XZ}$

True

#5) $\frac{AK}{BC} = \frac{XQ}{YZ}$

True

#6) $\frac{BC}{YZ} = \frac{XY}{AB}$

False

#7) $\frac{AB}{AK} = \frac{XY}{XQ}$

True