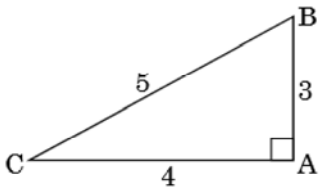
Similarity 7 – Similar Triangles 7.07



1. Copy ΔABC on a sheet of graph paper, making sure to label the sides and vertices as shown.

2. Given ΔABC, draw ΔXYZ on the same sheet of graph paper so that the sides of the new triangle are twice as long as those of ΔABC and ∠X = 90°.

2. Finally on the same sheet of graph paper draw a ΔRST with ∠R = 90° and with the sides three times as long as those of ΔABC.

3. Now complete the charts below using the three triangles. Simplify all ratios.

ΔABC	ΔXYZ	ΔRST
AB=	XY=	RS=
BC=	YZ=	ST=
AC=	XZ=	RT=

$\frac{\Delta ABC}{\Delta XYZ}$	$\frac{\Delta ABC}{\Delta RST}$	$\frac{\Delta XYZ}{\Delta RST}$
$\frac{AB}{XY} =$	$\frac{AB}{RS} =$	$\frac{XY}{RS} =$
$\frac{BC}{YZ} =$	$\frac{BC}{ST} =$	$\frac{YZ}{ST} =$
$\frac{AC}{XZ} =$	$\frac{AC}{RT} =$	$\frac{XZ}{RT} =$

	Perimeter	Area
ΔABC		
ΔXYZ		
ΔRST		

	Ratio of Perimeters	Ratio of Areas
$\frac{\Delta ABC}{\Delta XYZ}$		
$\frac{\Delta ABC}{\Delta RST}$		
$\frac{\Delta XYZ}{\Delta RST}$		

4. Are the 3 triangles similar?

5. For each set of two triangles, how do the ratios of corresponding sides compare?

6. For each set of two triangles, how do the ratios of corresponding sides compare to the ratios of perimeters?

7. For each set of two triangles, how do the ratios of corresponding sides compare to the ratios of areas?