Review Pg. 379 #16ab

U6 – Introductory Trigonometry
U6L1 – 5.2 – Similar and Congruent Triangles

Students will :
learn the conditions that are necessary for triangles to be **Similar** or **Congruent**.

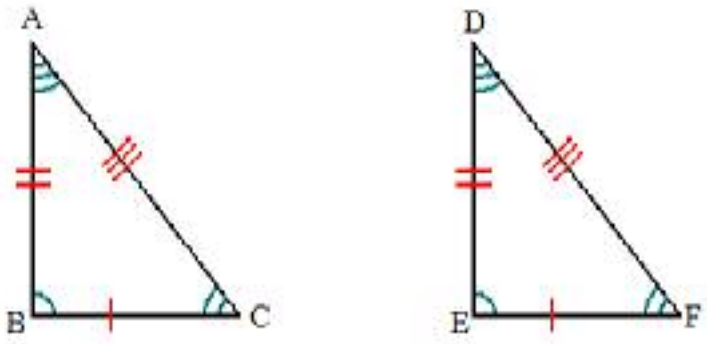
Triangles may be congruent, similar or neither.
Congruent triangles are identical in shape and size (ie. corresponding sides and angles are equal).
Similar triangles have sides that are proportional and corresponding angles that are equal (ie. one triangle is an enlargement or a reduction of the other).

Congruent Triangles

The following are the minimum conditions that would have to exist for triangles to be congruent:

1. SSS $\cong$ (Side-Side-Side Congruence)

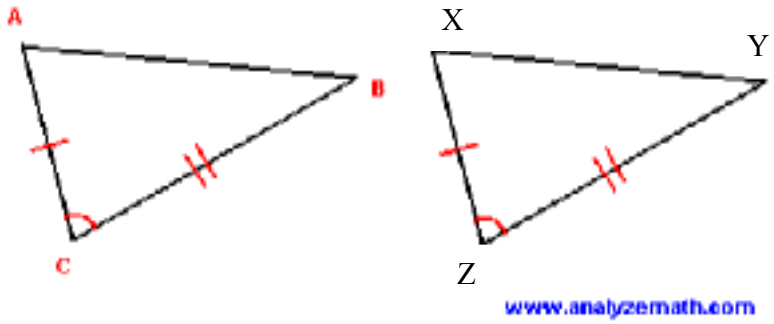
$\triangle ABC \cong \triangle DEF$ if three pairs of corresponding sides are equal:



That is: AB = DE, BC = EF, AC = DF

2. SAS $\cong$ (Side-Angle-Side Congruence)

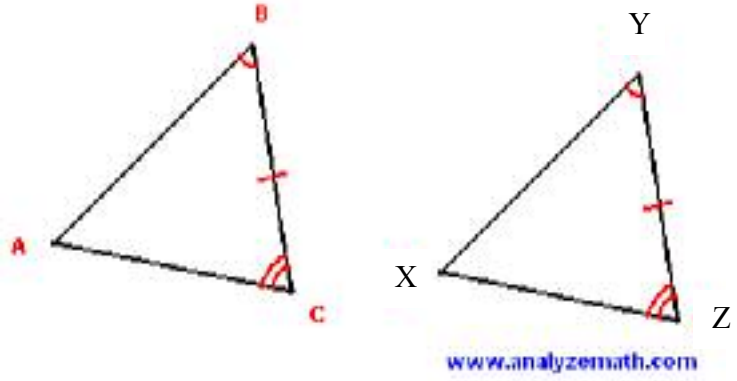
$\Delta ABC \cong \Delta XYZ$ if two pairs of corresponding sides and the contained angle are equal:



That is: AC = XZ, $\angle C = \angle Z$, and CB = ZY

3. ASA $\cong$ (Angle-Side-Angle Congruence)

$\Delta ABC \cong \Delta XYZ$ if two pairs of corresponding angles and the contained side are equal:



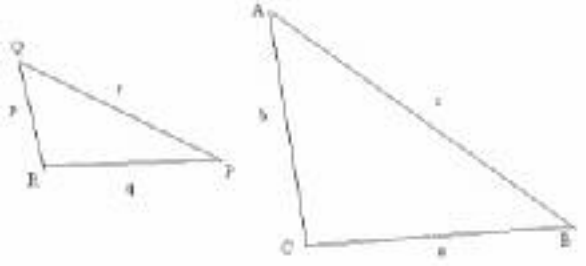
That is: $\angle C = \angle Z$, BC = YZ, and $\angle B = \angle Y$

Similar Triangles

The following are the minimum conditions that would have to exist for triangles to be similar:

1. SSS ~ (Side-Side-Side Similarity)

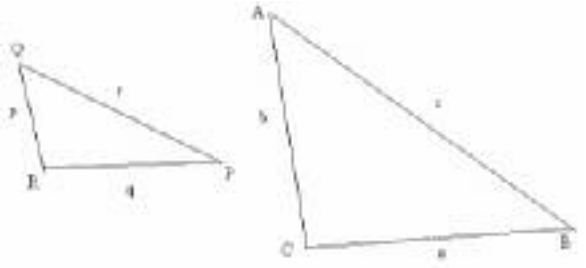
$\Delta ABC \sim \Delta QPR$ if three pairs of corresponding sides are proportional:



That is: $\frac{a}{q} = \frac{b}{p} = \frac{c}{r}$

2. SAS ~ (Side-Angle-Side Similarity)

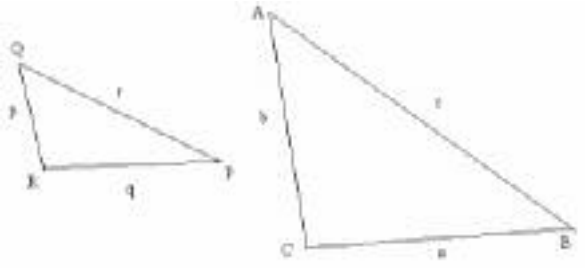
$\Delta ABC \sim \Delta QPR$ if two pairs of corresponding sides are proportional and the contained angle is equal:



That is: $\frac{a}{q} = \frac{b}{p}$ and $\angle C = \angle R$

3. ASA ~ (Angle-Angle Similarity)

$\Delta ABC \sim \Delta QPR$ if two pairs of corresponding angles are equal:



That is: $\angle A = \angle Q$ and $\angle B = \angle P$

Examples Pg.461 – 463 (4 – 6)b, 7d

Ex. Pg.460 – 464 #(1 – 3)all,(4 – 7)alt,8,10
Challenge: Example 3b on pg. 459 without looking at the answer on the next page.