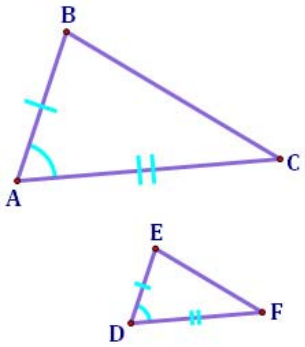
Pre-Algebra
Proportion Tables for Similar Triangles

Setting Up a Table of Proportions

It is often useful to set up a table to identify the proper proportions in a similarity. Consider the figure to the right. The table might look something like this:



Triangle	Left Side	Right Side	Bottom Side
Top Δ	AB	BC	CA
Bottom Δ	DE	EF	FD

The purpose of a table like this is to organize the information you have about the similar triangles so that you can readily develop the proportions you need.

Developing the Proportions

To develop proportions from the table:

- Extract the columns needed from the table:

AB	BC
DE	EF

- Eliminate the table lines.
- Replace the horizontal lines with "division lines."
- Put an equal sign between the two resulting fractions:

$$\frac{AB}{DE} = \frac{BC}{EF}$$

Also from the above table,

$$\frac{AB}{DE} = \frac{CA}{FD}$$

$$\frac{BC}{EF} = \frac{CA}{FD}$$

Solving for the unknown length of a side:

You can extract any two columns you like from the table. Usually, you will have information on lengths of three of the sides and will be asked to calculate a fourth.

Look in the table for the columns that contain the 4 sides in question, and then set up your proportion. Substitute known values into the proportion, and solve for the remaining variable.