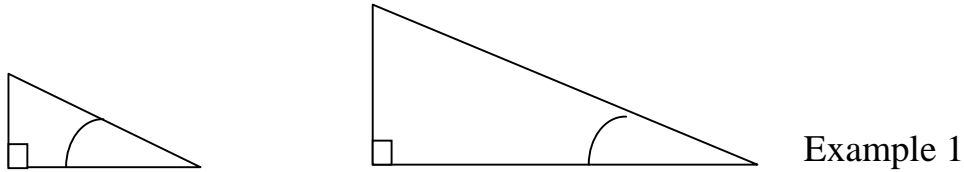


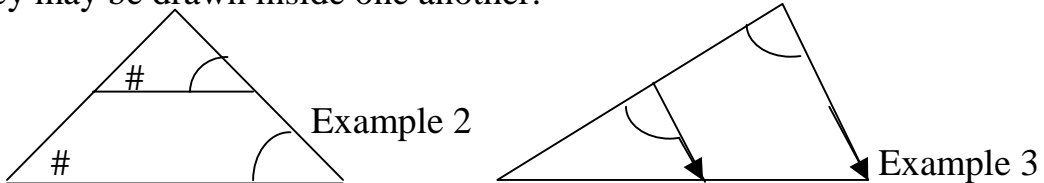
SIMILAR TRIANGLES

A PAIR OF SIMILAR TRIANGLES ARE **SIMILAR** BECAUSE ONE IS AN ENLARGEMENT OF THE OTHER

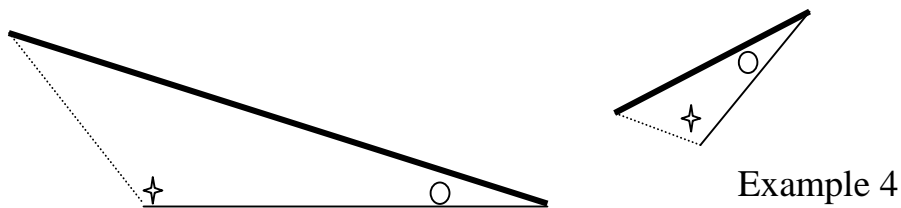
Triangles may be drawn next to one another:



They may be drawn inside one another:



Or they may be turned round a bit:

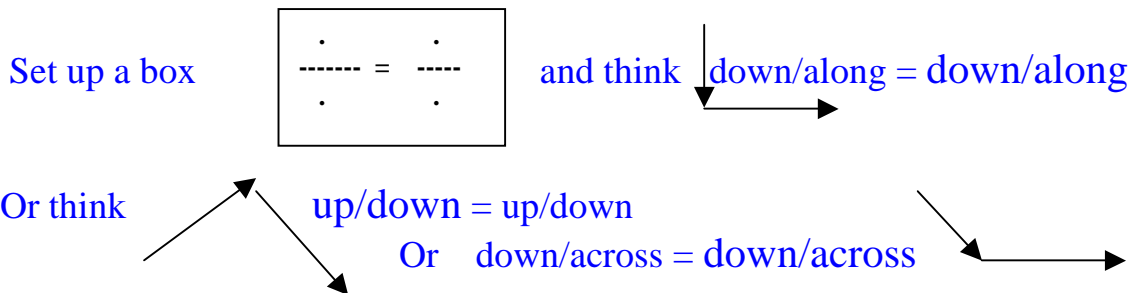


BUT THE ANGLES MUST MATCH FOR THEM TO BE SIMILAR

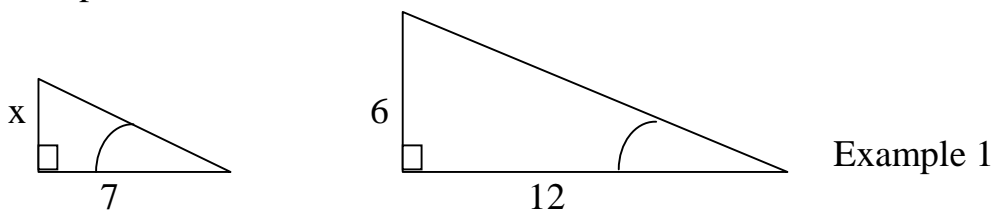
WHERE THERE ARE PARALLEL LINES, THEY MUST MATCH BECAUSE THEY ARE CORRESPONDING ANGLES. (# MATCHES #)

All other angles are shown if they match.

Now use the idea of an **L** shape



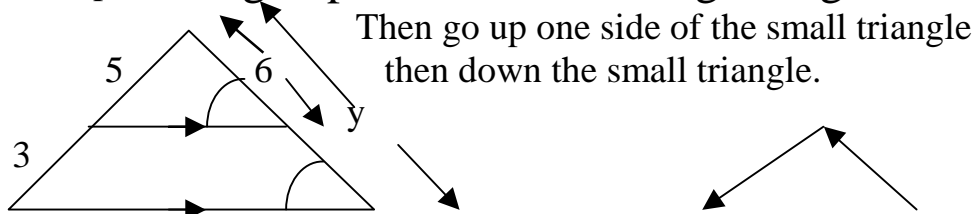
In Example 1:



go **down/along** with x in the top left corner. $\frac{x}{7} = \frac{6}{12}$

cross multiply the 7 $x = \frac{6 \times 7}{12}$ $x = 3.5$

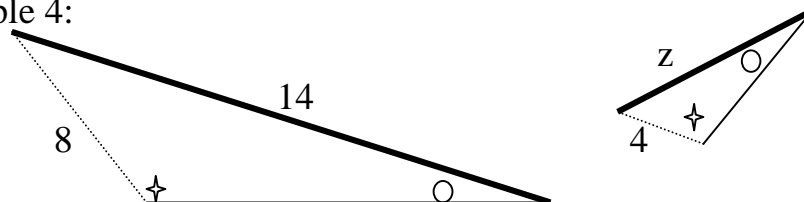
In Example 2: go up one side of the big triangle then down



Then go up one side of the small triangle then down the small triangle.

$$\frac{y}{8} = \frac{6}{5} \quad \text{cross multiply the 8} \quad y = \frac{6 \times 8}{5} = 9.6$$

In example 4:



go along the z and then down the 4 (dotted) on the small triangle then, **being careful of the turned triangle**, go along the corresponding side and down the dotted side on the big triangle.

$$\frac{z}{4} = \frac{14}{8} \quad \text{cross multiply the 4} \quad z = \frac{14 \times 4}{8} = 7$$

HARD QUESTION:

Here the x is not part of a triangle so use (x + 8)

$$\frac{x + 8}{9} = \frac{8}{5} \quad \text{cross multiply}$$

$$x + 8 = \frac{8 \times 9}{5} = \frac{72}{5} = 14.4$$

$$x = 14.4 - 8 = 6.4$$

