

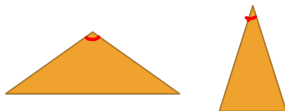
Similar Figures

For polygons to be similar, three things must be true. Look at the figures below to determine the first one.



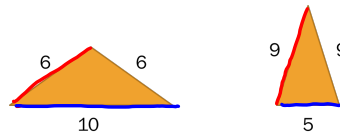
1) They are not similar because they are two diff. shapes.

Use the shapes below to figure out the next one. They have the same general shape, but what is different about them? Remember, you don't know side lengths, so don't focus on that.



2) They are not similar because the corresponding angles are not the same.

Now, if we knew side lengths, how could you prove these are not similar mathematically.



3) Corresponding side lengths are not proportionate

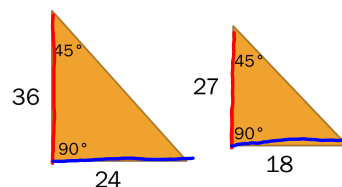
Show work here:

$$\begin{array}{r} 6 \quad 9 \\ 10 \quad 5 \\ \hline 90 \neq 30 \end{array}$$

In order for two shapes to be considered similar, the following must be true...

1. They have the same shape.
2. Corresponding angles are the same.
3. Corresponding side lengths are proportionate.

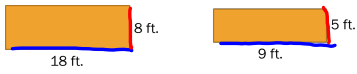
Are these figures similar?



Show work here:

$$\begin{array}{r} 36 \quad 27 \\ 24 \quad 18 \\ \hline 648 = 648 \\ \text{yes} \end{array}$$

Are these figures similar?



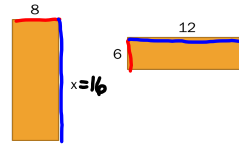
Show work here:

$$\frac{18}{8} \neq \frac{9}{5}$$

$$72 \neq 90$$

No

If we know the two figures are similar, how can we find x?



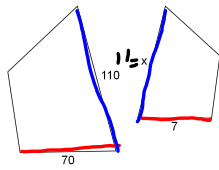
Show work here:

$$\frac{8}{x} = \frac{6}{12}$$

$$6x = \frac{96}{6}$$

$$x = 16$$

If we know the two figures are similar, how can we find x?



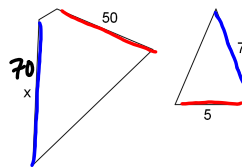
Show work here:

$$\frac{70}{110} = \frac{7}{x}$$

$$70x = 770$$

$$x = 11$$

If we know the two figures are similar, how can we find x?



Show work here:

$$\frac{50}{x} = \frac{5}{7}$$

$$5x = \frac{350}{5}$$

$$x = 70$$