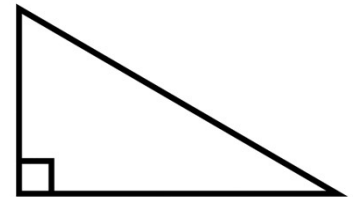# Right Triangle Similarity – Geometric Mean

Objectives:

- Understand and define a right triangle

- Using an altitude, create similar right triangles

- Find missing measurements using Geometric Means.

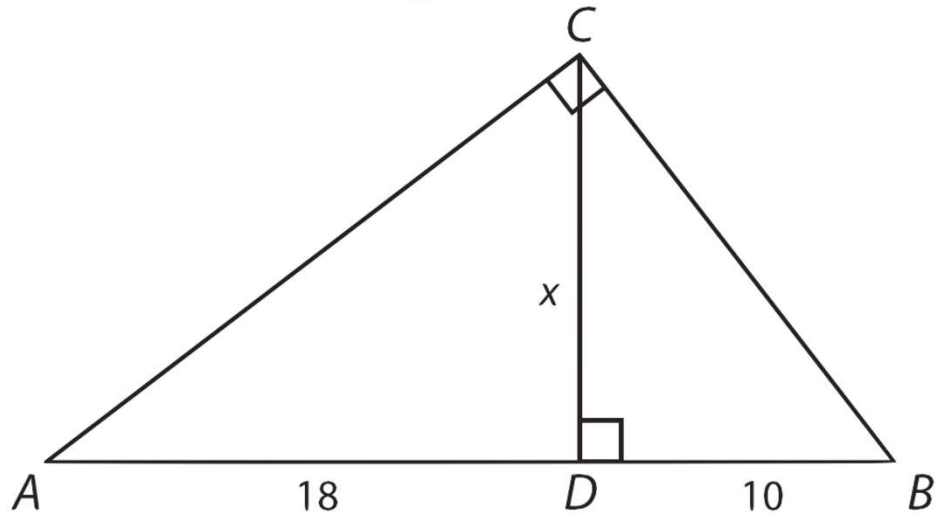A right triangle is a triangle that has one angle equal to 90° (right angle)

SIMILAR RIGHT TRIANGLES

- If the altitude is drawn to the hypotenuse of a right triangle, then the two triangles formed are similar to the original triangles and each other.
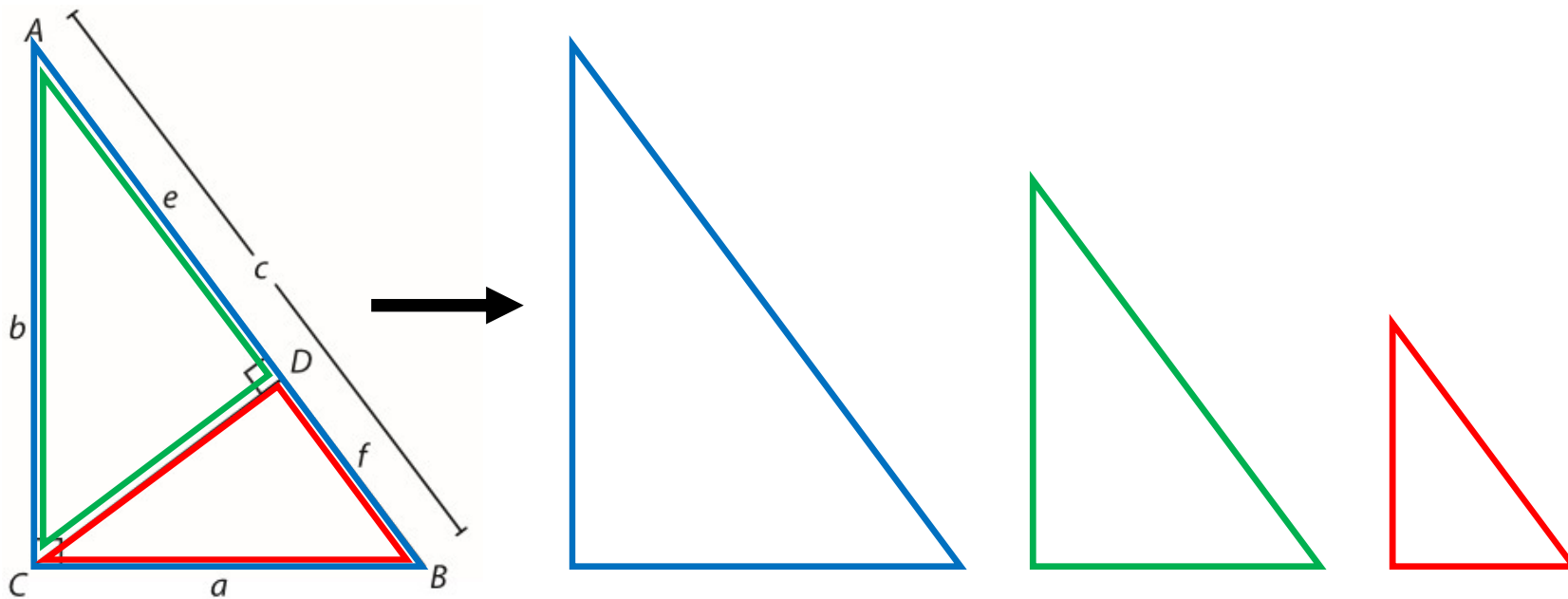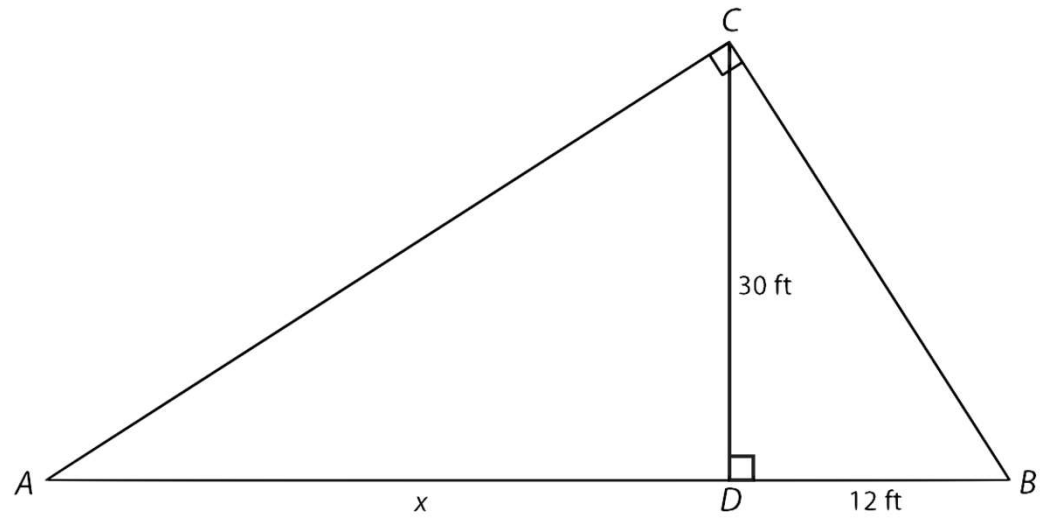
SIMILAR RIGHT TRIANGLES

1) Find the length of the altitude, x, of $\triangle ABC$.
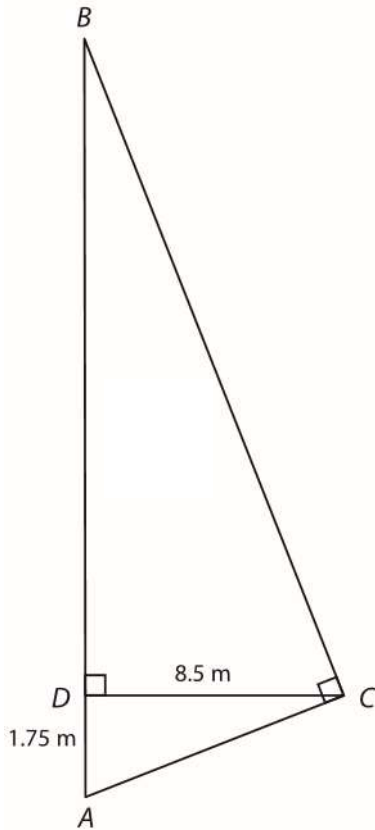
Similar Right Triangles

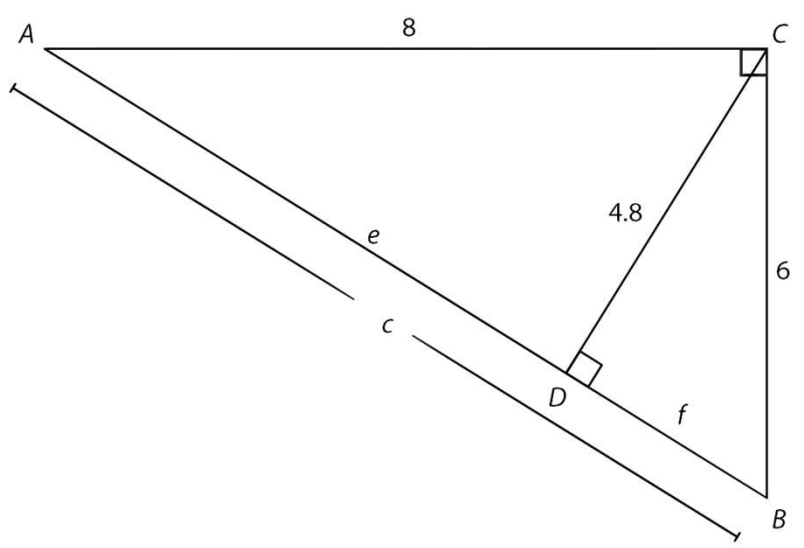2) Find the unknown value in the figure.

Similar Right Triangles

3) Find the length of $\overline{BA}$. If needed, round to the nearest tenth of a meter.

SIMILAR RIGHT TRIANGLES

4) Find the unknown values in the figure.

When do you use the Geometric Mean?

- When you have a right triangle

- The triangle is divided with an altitude

XL Tip: XL will ask you to 'find the Geometric Mean of 4 and 13'. To do this just write and solve a proportion.   example: $\frac{4}{x} = \frac{x}{13}$

Assignment:

10.4 worksheet

and

MathXL 10.4

Remember to show all your steps!