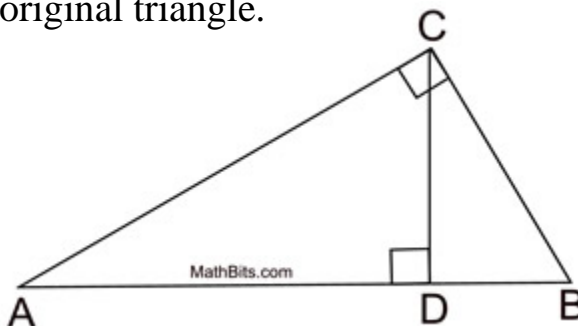Do Now: Please take out your **HW** from yesterday. We are going to go over it.

THEOREM!

The _____ to the hypotenuse of a right triangle forms two triangles that are _____ to each other and to the original triangle.

If right $\triangle ABC$, altitude $\overline{CD}$,

then $\triangle ADC \sim \triangle CDB$,

$\triangle ACB \sim \triangle ADC$, and

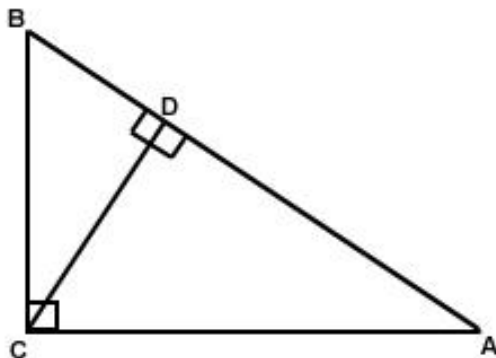$\triangle ACB \sim \triangle CDB$.

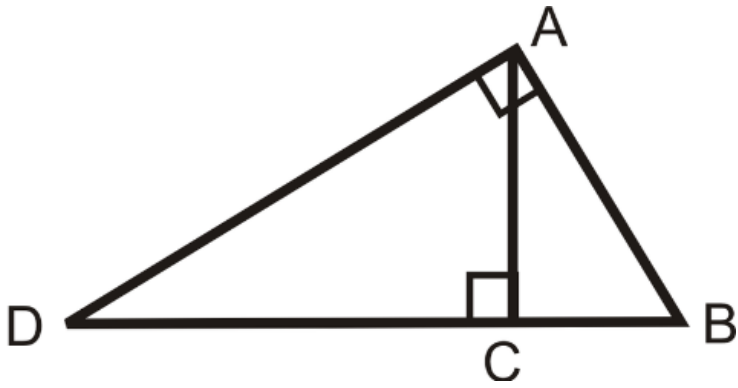We are going to break down the above triangle into _____ **SIMILAR** triangles.

Recall! What do we know about **similar** triangles:

What are some of the proportions that we can set up:

There is an extremely valuable **trick** that we can use to solve problems associated with this spectacular theorem. Let's discuss it.
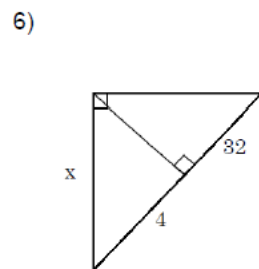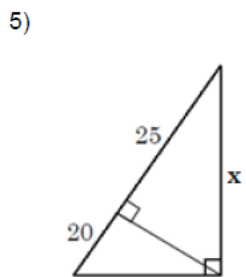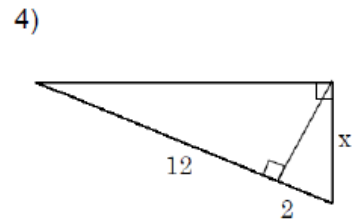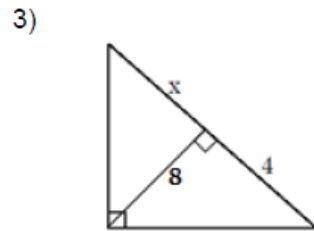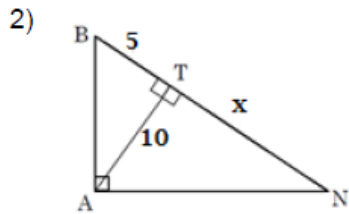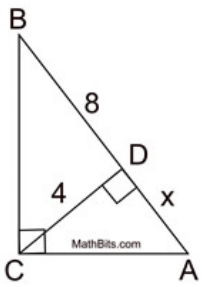
Let's try that strategy **one more time**!

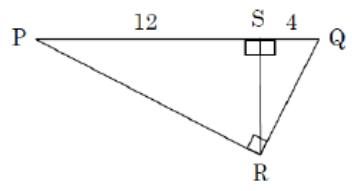**OK!** Time for some practice.

1. Find x.
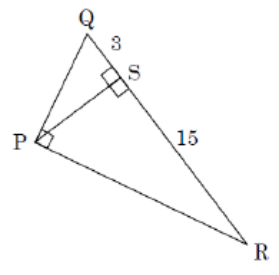

2)

3)

4)

5)

6)

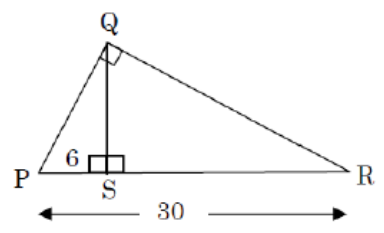Find the length of the **altitude** in each of the below triangles.

7)

8)
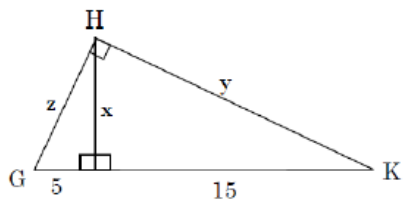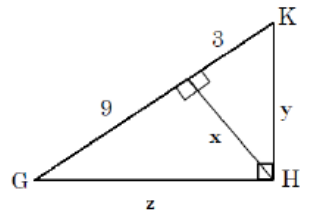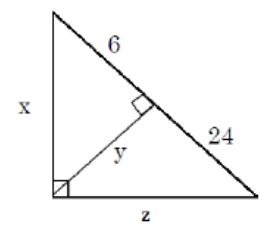

9)

Solve for the variables x, y, and z in each triangle.

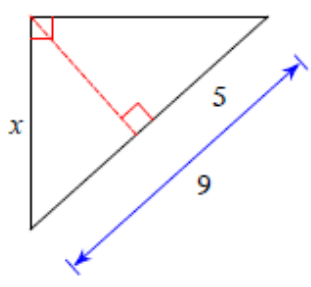16)

17)

18)

9)

10)