Name: _____ Date: _____ Block: _____

Section 8.1: Geometric Mean

Geometric Mean: In the following example, if a, b, and x are positive numbers, and

$$\frac{a}{x} = \frac{x}{b}$$, then x is called the _____ _____

Example 1: What is the geometric mean between ____ and _____	Example 2: What is the geometric mean between ____ and _____	Example 3: ____ is the geometric mean between 2 & what number?

⭐ Recall: An altitude of a triangle is a _____ _____ from a
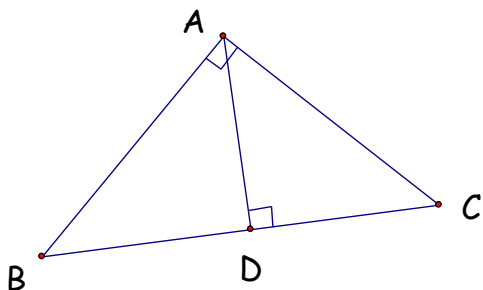vertex to a line containing the opposite side. DRAW AN EXAMPLE:

Theorem 8-1: If the altitude is drawn to the _____ of a right triangle, then
the two triangles formed are _____ to the original triangle and to each other.

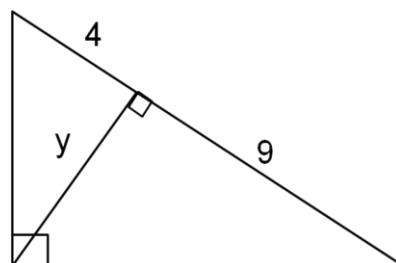Ex. 1: $\triangle BAC \sim$ _____ $\sim$ _____

Corollary 1: When the altitude is drawn to the hypotenuse of a right triangle, the length of the
altitude is the geometric mean between the _____.
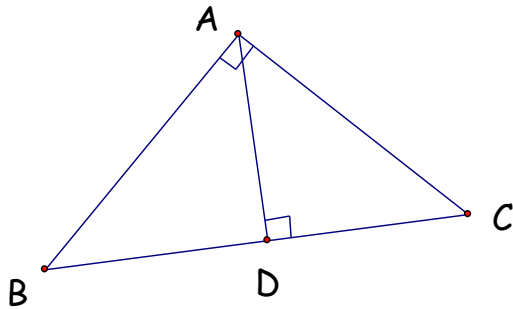HINT: _____

Ex. 1: ____ = ____

Ex 2: Solve for y

<u>Corollary 2</u>: When the altitude is drawn to the hypotenuse of a right triangle, _____ _____ is the geometric mean between the hypotenuse and the segment of the hypotenuse that is adjacent to that leg.
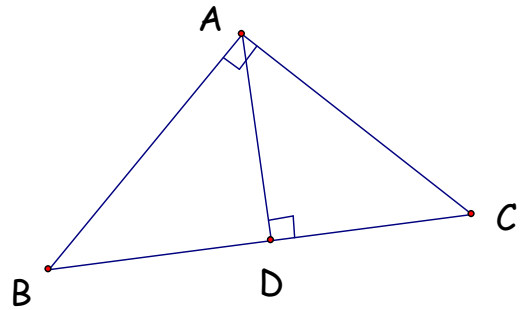
　　Hint: _____

So, we can say:　　**hypotenuse** = _____　　　　AND　　　　**hypotenuse** = _____ .
　　　　　　　　　　adjacent segment　　　　　　　　　　　　　　　**adjacent segment**

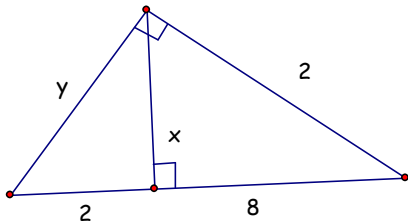Ex 1: ____ = ____　　　AND　　: ____ = ____

Ex 2: **Label** AC = 8, BC = 16 Solve for DC.
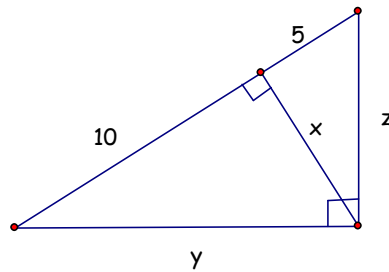

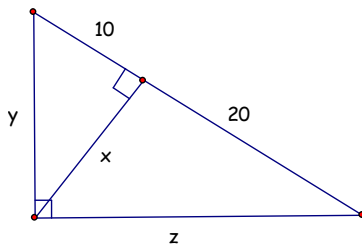<u>Examples</u>: Solve for w, x, y and/or z.　**SET UP EACH EQUATION** and show work to solve

1.

2

3.

4.