7.3 Use Similar Right Triangles

Theorem 7.5

When the altitude is drawn to the hypotenuse of a right triangle, the two small triangles formed are similar to the original triangle and to each other.

Geometric Mean Leg Theorem

If an altitude is drawn to the hypotenuse of a right triangle, then each leg is the geometric mean of the hypotenuse and the segment of the hypotenuse adjacent to the leg.

Example:

Geometric Mean Altitude Theorem

If an altitude is drawn to the hypotenuse of a right triangle then the altitude is the geometric mean of the 2 segments it divides the hypotenuse into

Example:

Practice Problems: