Geometry

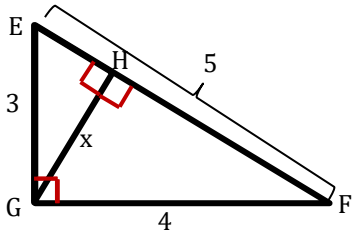
9.3 Similar Right Triangles

Right Triangle Similarity Theorem

If the _____ is drawn to the _____ of a right triangle, then the two triangles formed are _____ to the _____ triangle and to _____.

ΔCBD ~ ΔABC, ΔACD ~ ΔABC, ΔCBD ~ ΔACD

Identify the similar triangles. Then find *x*.



Geometric Mean

The geometric mean of two positive numbers _____ and _____ is the positive number that satisfies $\frac{a}{x} = \frac{x}{b}$. So,

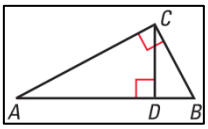
_____

Find the geometric mean of 8 and 10.

Geometric Mean (Altitude) Theorem

If the altitude is drawn to the hypotenuse of a right triangle, then the _____ is the _____ _____ of the two _____ of the _____.

$\boldsymbol{CD = \sqrt{AD \cdot DB}}$

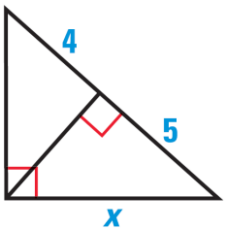


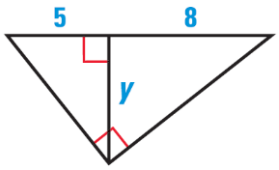
Geometric Mean (Leg) Theorem

If the altitude is drawn to the hypotenuse of a right triangle, then each _____ is the _____ _____ of the _____ and the _____ of the _____ adjacent to that leg.

$\boldsymbol{AC = \sqrt{AB \cdot AD}}$ **and** $\boldsymbol{BC = \sqrt{AB \cdot DB}}$

Find the value of x or y.





Assignment: 466 #2, 4, 6, 8, 10, 12, 14, 18, 20, 22, 24, 27, 30, 32, 36, 43, 47, 48, 49, 50 = 20 total