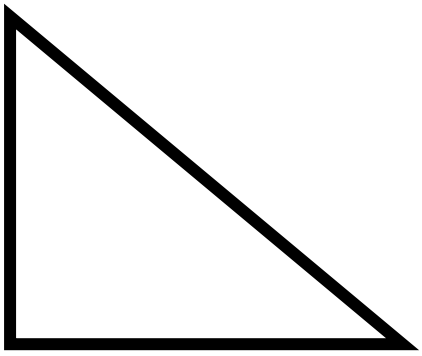
Name _____ Date _____

Working with Right Triangles - Step-by-Step Lesson

A right triangle has a base that is 20 units in length and a hypotenuse that is 15 units. Find the value of opposite side?



Explanation:

A triangle contains exactly one 90° angle. The other two angles must total exactly 90 degrees. The famous Pythagoras Theorem defines the relationship between the three sides of a right triangle:

$\text{Hypotenuse}^2 = \text{Base}^2 + \text{Opposite}^2$

Step 3) $\text{Hypotenuse}^2 = \text{Base}^2 + \text{Opposite}^2$

$(15)^2 = (20)^2 + \text{Opposite}^2$

$\text{Opposite}^2 = (20)^2 - (15)^2$

$\text{Opposite}^2 = 400 - 225$

$\text{Opposite} = \sqrt{175}$

$\text{Opposite} = 13.29$