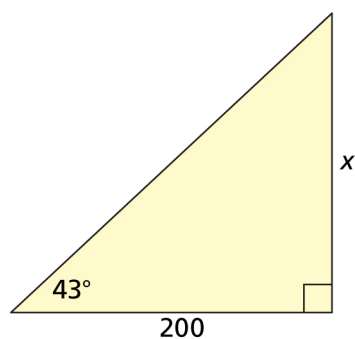


Finding Lengths: Tangent

Find a Side Length Using Tangent

Determine the measure of length x .



Alt Text: This illustration shows a right triangle with hypotenuse 200 units, reference angle 43° , and opposite side x .

Solution

$$\tan x = \frac{\text{opposite}}{\text{adjacent}}$$

$$\tan 43^\circ = \frac{x}{200}$$

$$(200)(\tan 43^\circ) = \left(\frac{x}{200}\right)(200)$$

$$(200)\tan(43^\circ) = x$$

$$x = 186.5$$