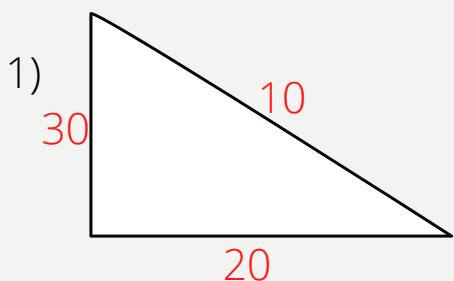
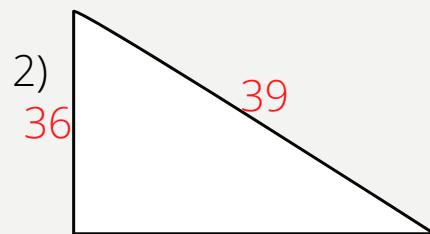


PYTHAGOREAN THEOREM

Use the pythagorean theorem to show if the triangle is a right triangle.



$$\begin{aligned}1) \quad & a^2 + b^2 = c^2 \\& 10^2 + 20^2 = 30^2 \\& 100 + 400 = 900 \\& 300 \neq 900\end{aligned}$$



$$\begin{aligned}2) \quad & a^2 + b^2 = c^2 \\& 15^2 + 36^2 = 39^2 \\& 225 + 1296 = 1521 \\& 1521 = 1521\end{aligned}$$

This is right angle triangle

Find X. Estimate the answer the nearest whole number.

A right triangle with a vertical leg labeled 7, a horizontal leg labeled 6, and a hypotenuse labeled c . A dashed line from the right angle to the hypotenuse indicates it is divided into two smaller right triangles.

$$\begin{aligned}3) \quad & a^2 + b^2 = c^2 \\& 7^2 + 6^2 = c^2 \\& 49 + 36 = c^2 \\& 85 = c \\& \mathbf{c = 8.1}\end{aligned}$$

$$\begin{aligned}x &= 2c \\&= 2 \times 8.1 \\& \mathbf{x = 16.2}\end{aligned}$$

A right triangle with a vertical leg labeled 20, a horizontal leg labeled 20, and a hypotenuse labeled c . A dashed line from the right angle to the hypotenuse indicates it is divided into two smaller right triangles.

$$\begin{aligned}4) \quad & a^2 + b^2 = c^2 \\& 20^2 + 20^2 = c^2 \\& \left(\frac{20}{2}\right)^2 + 20^2 = c^2 \\& 10^2 + 20^2 = c^2 \\& 100 + 400 = c^2 \\& 500 = c^2 \\& \mathbf{c = 22}\end{aligned}$$

