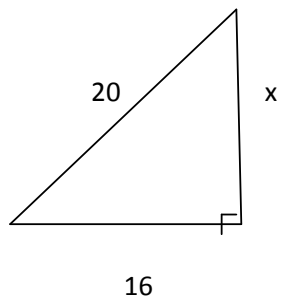


Question #30604

A cable 20 feet long connects the top of a flagpole to a point on the ground that is 16 feet from the base of the pole. How tall is the flagpole?

Solution. The following figure helps to understand the solution



We obtain a right triangle. By the Pythagorean theorem

$$x^2 + 16^2 = 20^2$$

and so

$$x = \sqrt{20^2 - 16^2} = 12.$$

Answer. 12 feet.