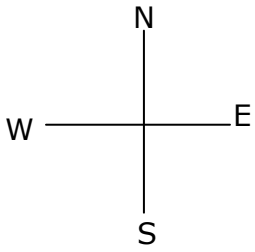
Name _____ Date _____

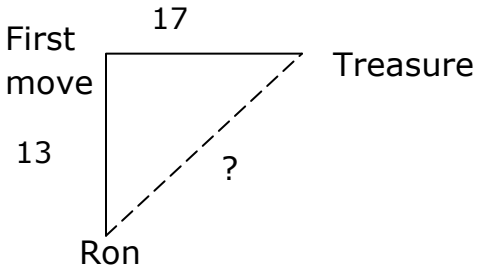
Unknown Side Lengths in Right Triangle - Step-by-Step Lesson

Pirate Raider Ron has a map of a hidden treasure. He moves 13 meters 90°north, then he moves 17 meters 45° east. He finds the treasure hidden in a chest. Find the distance between Ron's initial location to the hidden treasure.

Explanation:

In a right triangle, $a^2 + b^2 = c^2$, where a and b are the lengths of the base and perpendicular and c is the length of the hypotenuse. It is called the Pythagorean theorem.





Step 3) $13^2 + 17^2 = x^2$

$169 + 289 = x^2$

$x^2 = 458$

$x = \sqrt{458}$

$x = \sim 21.4$