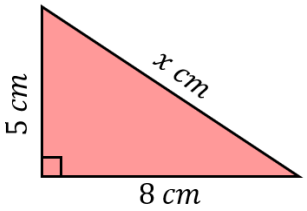
Finding the Length of the Hypotenuse using Pythagoras' Theorem

(a) Find x to 1 decimal place



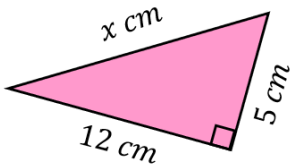
$x^2 = 5^2 + 8^2$

$x^2 = 89$

$x = \sqrt{89}$

$x = 9.4\ cm\ (1\ dp)$

(b) Find x



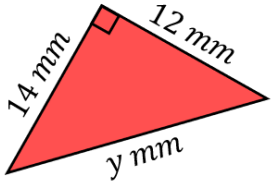
$x^2 = 5^2 + 12^2$

$x^2 = 169$

$x = \sqrt{169}$

$x = 13\ cm$

(c) Find y to 1 decimal place



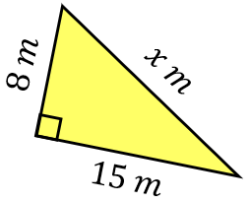
$y^2 = 12^2 + 14^2$

$y^2 = 340$

$y = \sqrt{340}$

$y = 18.4\ mm\ (1\ dp)$

(d) Find x



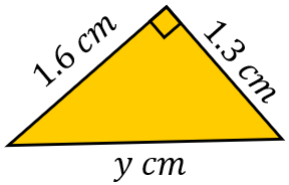
$x^2 = 8^2 + 15^2$

$x^2 = 289$

$x = \sqrt{289}$

$x = 17\ m$

(e) Find y to 1 decimal place



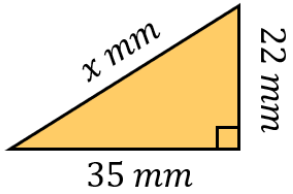
$y^2 = 1.6^2 + 1.3^2$

$y^2 = 4.25$

$y = \sqrt{4.25}$

$y = 2.1\ cm\ (1\ dp)$

(f) Find x to 1 decimal place



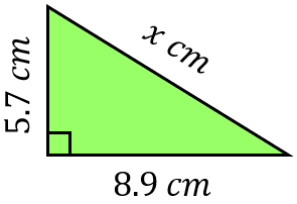
$x^2 = 22^2 + 35^2$

$x^2 = 1709$

$x = \sqrt{1709}$

$x = 41.3\ mm\ (1\ dp)$

(g) Find x to 1 decimal place



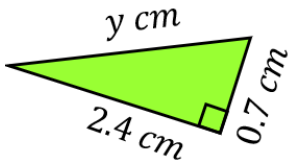
$x^2 = 5.7^2 + 8.9^2$

$x^2 = 111.7$

$x = \sqrt{111.7}$

$x = 10.6cm\ (1\ dp)$

(h) Find y



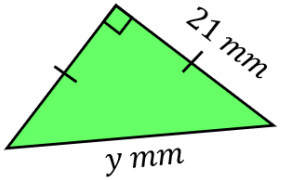
$y^2 = 5^2 + 12^2$

$y^2 = 6.25$

$y = \sqrt{6.25}$

$y = 2.5\ cm$

(i) Find y to 1 decimal place



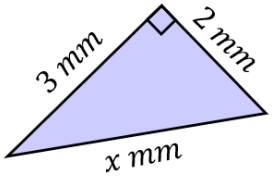
$y^2 = 21^2 + 21^2$

$y^2 = 882$

$y = \sqrt{882}$

$y = 29.7\ mm\ (1\ dp)$

(j) Find x, leaving your answer as a surd

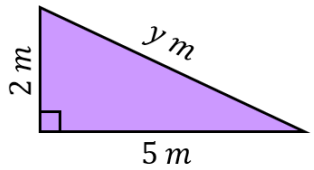


$x^2 = 2^2 + 3^2$

$x^2 = 13$

$x = \sqrt{13}\ cm$

(k) Find y, leaving your answer as a surd

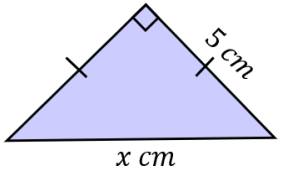


$y^2 = 2^2 + 5^2$

$y^2 = 29$

$y = \sqrt{29}\ m$

(l) Find x, leaving your answer as a surd



$x^2 = 5^2 + 5^2$

$x^2 = 50$

$x = \sqrt{50}\ cm$

$or\ x = 5\sqrt{2}\ cm$