

# C1 Pythagorus (day 2)

$$a^2 + b^2 = c^2$$

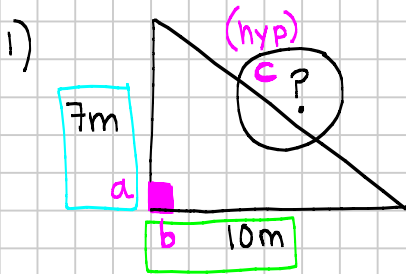
Note Title

28/02/2013

## Steps

Find the missing side length to the nearest tenth:

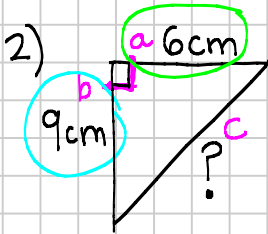
1. Label triangle sides
2. write  $a^2 + b^2 = c^2$
3. Fill in values
4. Solve. (Algebra!)



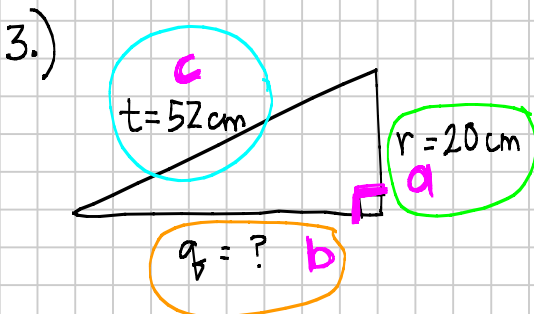
$$\begin{aligned}
 a^2 + b^2 &= c^2 \\
 (7m)^2 + (10m)^2 &= c^2 \\
 49m^2 + 100m^2 &= c^2 \\
 \sqrt{149m^2} &= \sqrt{c^2} \\
 12.2m &= c
 \end{aligned}$$

this value is the AREA of the attached square. We need the side length!

← opposite of squared is the square root



$$\begin{aligned}
 a^2 + b^2 &= c^2 \\
 (6cm)^2 + (9cm)^2 &= c^2 \\
 36cm^2 + 81cm^2 &= c^2 \\
 \sqrt{117cm^2} &= \sqrt{c^2} \\
 10.816... &= c \\
 10.8cm &= c
 \end{aligned}$$



$$\begin{aligned}
 a^2 + b^2 &= c^2 \\
 (20cm)^2 + a^2 &= (52cm)^2 \\
 400cm^2 + a^2 &= 2,704cm^2 \\
 -400cm^2 & -400cm^2 \\
 \sqrt{a^2} &= \sqrt{2,304cm^2} \\
 a &= 48.0cm
 \end{aligned}$$

4) Draw  $\triangle efg$ , where  $e = 9\text{cm}$ ,  $f = ?$ , and  $g = \text{hyp} = 41\text{cm}$ .  
Then use Pythagorus to solve for  $f$ .

⊗ Solve, show me, then start assign ⊗

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