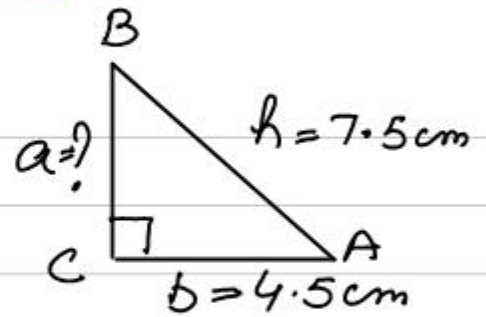


class VII, ex 15D, Page 2

Solutions by Dev Anoop

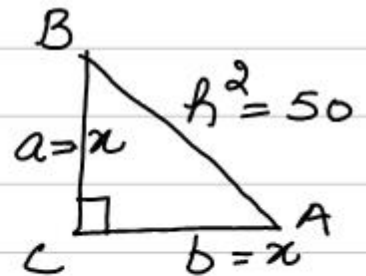
③ In rt $\triangle BCA$
 $h^2 = a^2 + b^2$ (pythagoras theorem)
 $7.5^2 = a^2 + 4.5^2$
 $\Rightarrow a^2 = 56.25 - 20.25$
 $\Rightarrow a^2 = 36$
 $\Rightarrow a = \sqrt{36}$
 $= \sqrt{2^2 \times 3^2}$
 $= 2 \times 3$
 $= 6 \text{ cm}$



$$\begin{array}{r|l} 3 & 36 \\ \hline & 12 \\ 3 & 4 \\ \hline & 2 \end{array}$$

④ Sol let each leg = x cm

In rt $\triangle BCA$
 $h^2 = a^2 + b^2$ (pythagoras theorem)
 $50 = x^2 + x^2$
 $\Rightarrow 2x^2 = 50$
 $\Rightarrow x^2 = \frac{50}{2}$
 $\Rightarrow x = \sqrt{25}$
 $= \sqrt{5^2}$
 $= 5$



$\therefore a = b = 5 \text{ cm}$

⑤ let $a = 15 \text{ cm}$, $b = 36 \text{ cm}$, $c = 39 \text{ cm}$
 $c^2 - b^2 = 39^2 - 36^2$
 $= (39 - 36)(39 + 36)$ [$a^2 - b^2 = (a - b)(a + b)$]
 $= 3 \times 75$
 $a^2 = \frac{225}{3}$
 $= 15^2$
 $= 225$

$\therefore a^2 = c^2 - b^2$

\therefore The triangle is a right triangle by converse of pythagoras theorem.