Review Exercise 15

Q.1 Which of the following are true and which are false

(i) In a right angled triangle greater angle is of 90° (True)

(ii) In a right angled triangle right angle is of 60° (False)

(iii) In a right triangle hypotenuse is a side opposite to right angle (True)

(iv) If a,b,c are sides of right angled triangle with c as longer side then c

$c^2 = a^2 + b^2$ (True)

(v) If 3cm and 4cm are two sides of a right angled triangle, the hypotenuse is 5cm (True)

(vi) If hypotenuse of an isosceles right triangle is $\sqrt{2}$ cm then each of other side is of length 2cm (False)

Q.2 Find the unknown value in each of the following figures.

(i) By Path agoras theorem

$(\text{Hypotenuse})^2 = (\text{Base})^2 + (\text{Perpendicular})^2$

$(x)^2 = (3)^2 + (4)^2$

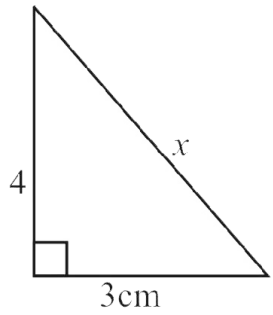
$x^2 = 9 + 16$

$x^2 = 25$

Taking square root on both side

$\sqrt{x^2} = \sqrt{25}$

$x = 5\,cm$



(ii) By Pythagoras theorem

$(\text{Hypotenuse})^2 = (\text{Base})^2 + (\text{Perpendicular})^2$

$(10)^2 = (x)^2 + (6)^2$

$100 = x^2 + 36$

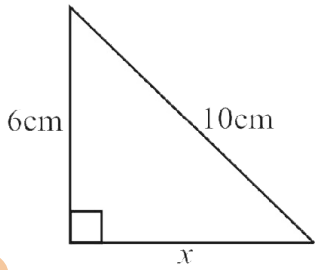
$100 - 36 = x^2$

$x^2 = 64$

Taking square root on both side

$\sqrt{x^2} = \sqrt{64}$

$x = 8\,cm$



(iii) By Pythagoras theorem

$(\text{Hypotenuse})^2 = (\text{Base})^2 + (\text{Perpendicular})^2$

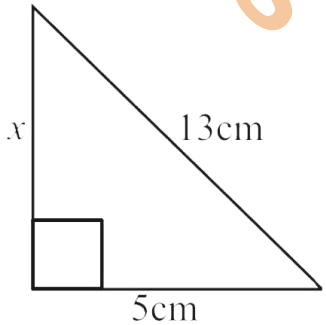
$(13)^2 = (5)^2 + (x)^2$

$169 = 25 + x^2$

$169 - 25 = x^2$

$x^2 = 144$

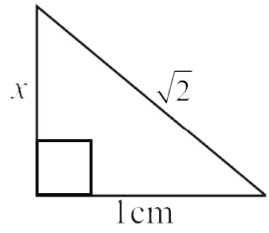
Taking square root on both side



$\sqrt{x^2} = \sqrt{144}$

$x = 12\ cm$

(iv) By Path agoras theorem



$(\text{Hypotenuse})^2 = (\text{base})^2 + (\text{Perpendicular})^2$

$(\sqrt{2})^2 = (1)^2 + (x)^2$

$2 = 1 + x^2$

$2 - 1 = x^2$

$x^2 = 1$

Taking square root on both side

$\sqrt{x^2} = \sqrt{1}$

$x = 1cm$