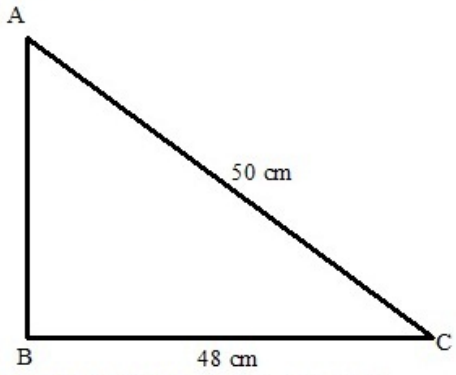
Exercise 7A

Question 14:

Base of the right triangle is BC = 48 cm

Hypotenuse of the right triangle is AC = 50 cm

Let AB = x cm




By Pythagoras Theorem, we have,

$$AC^2 = AB^2 + BC^2$$

That is we have

$$50^2 = x^2 + 48^2$$

$$\Rightarrow \quad x^2 = 50^2 - 48^2$$

$$\Rightarrow \quad x^2 = 2500 - 2304 = 196$$

$$\Rightarrow \quad x = \sqrt{196} = 14\text{cm}$$

$$\therefore \text{ Area of the right angle triangle } = \frac{1}{2} \times \text{base} \times \text{height}$$

$$= \frac{1}{2} \times 48 \times 14$$

$$= (24 \times 14)\text{cm}^2 = 336\text{cm}^2$$

$$\therefore \text{ Area of the triangle } = 336\,\text{cm}^2$$

Question 15:

(i) Area of an equilateral triangle = $\frac{\sqrt{3}}{4}a^2$

Where a is the side of the equilateral triangle

$\therefore$ $\text{area} = \frac{\sqrt{3}}{4} \times 8^2$

$= \frac{\sqrt{3}}{4} \times 64 \Rightarrow \sqrt{3} \times 16$

$= 1.732 \times 16$

$= 27.712 = 27.71\text{cm}^2.$ [correct upto 2 decimal places]

(ii) Height of an equilateral triangle = $\frac{\sqrt{3}}{2}a$

$= \frac{\sqrt{3}}{2} \times 8$

$= \sqrt{3} \times 4$

$= 1.732 \times 4 = 6.928$

$= 6.93\text{cm}$ [Correct upto 2 decimal places]

********** END **********