Exercise 7A

Question 3:

Here, a = 42 cm, b = 34 cm and c = 20 cm

Therefore, $s = \frac{42+34+20}{2} = 48$

Area = $\sqrt{S(S-a)(S-b)(S-c)}$

$= \sqrt{48(48-42)(48-34)(48-20)}$

$= \sqrt{48 \times 6 \times 14 \times 28}$

$= \sqrt{4 \times 4 \times 3 \times 3 \times 2 \times 14 \times 14 \times 2}$

$= 4 \times 3 \times 2 \times 14$

$= 336 \text{ cm}^2$

Longest side = 42 cm

$\Rightarrow b = 42$ cm

Let h be the height corresponding to the longest side.

Area of the triangle $= \frac{1}{2} \times b \times h$

$\Rightarrow \frac{1}{2} \times b \times h = 336$

$\Rightarrow 42 \times h = 336 \times 2$

$\Rightarrow h = \frac{336 \times 2}{42} = 16$ cm

Question 4:

Here, a = 18 cm, b = 24 cm and c = 30 cm

Therefore, $s = \frac{18+24+30}{2} = 36$

Area $= \sqrt{s(s-a)(s-b)(s-c)}$

$= \sqrt{36(36-18)(36-24)(36-30)}$

$= \sqrt{36 \times 18 \times 12 \times 6}$

$= \sqrt{6 \times 6 \times 6 \times 3 \times 3 \times 4 \times 6}$

$= 6 \times 6 \times 3 \times 2$

$= 216 \text{ cm}^2$

Smallest side = 18 cm

Let h be the height corresponding to the smallest side.

Area of the triangle $= \frac{1}{2} \times b \times h$

$\Rightarrow \frac{1}{2} \times b \times h = 216$

$\Rightarrow 18 \times h = 216 \times 2$

$\Rightarrow h = \frac{216 \times 2}{18} = 24$ cm

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