Exercise 13A

Question 13:

Volume of a cuboid = 1536 m^3

Length of the cuboid = 16 m

Let the breadth and height of the cuboid be 3x and 2x.

$\therefore$ Volume of cuboid = l x b x h

$\Rightarrow$ 1536 = (16 x 3x x 2x)

$\Rightarrow$ 1536 = $96x^2$

$\Rightarrow$ $x^2 = \frac{1536}{96} = 16$

$\therefore$ $x = \sqrt{16} = 4\,m.$

$\therefore$ Breadth of the cuboid = 3x = 3 x 4 = 12m

And height of the cuboid= 2x = 2x 4 =8 m

Question 14:

Surface area of a cuboid = 758 cm^2

Length = 14 cm

Breadth = 11 cm

Let the height of the cuboid = h cm

$\therefore$ Surface area of cuboid = 2(lb + bh + lh)

$\Rightarrow$ 758 = 2(14 x 11 +11 x h + 14 x h)

$\Rightarrow$ 758 = 2(154 + 11h + 14h)

$\Rightarrow$ 758 = 2(154 + 25h)

$\Rightarrow$ 758 = 308 + 50h

$\Rightarrow$ 50 h = 758 - 308

$\therefore$ $h = \frac{450}{50} = 9cm.$

$\therefore$ The height of the cuboid = 9 cm

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