Exercise 12A

Question 8:

Depth of the river = 2 m

Breadth of the river = 45 m

Length of the river = 3 K M /h $= \left(\frac{3 \times 1000}{60}\right)$ m/min

= 50m /min.

$\therefore$ Volume of water running into the sea per minute = (50 x 45 x 2) m^3

= 4500 m^3

Question 9:

Total cost of sheet = Rs. 1620

Cost of metal sheet per square meter = Rs.30

$\therefore$ Area of the sheet required $= \left(\frac{\text{Total cost}}{\text{rate } /m^2}\right)$ sq.m.

$= \left(\frac{1620}{30}\right)$ sq.m = 54 sq.m.

Length of box = 5m

Breadth of box = 3m

Now, Let the height of the box be x meters.

$\therefore$ Area of the sheet = Total surface area of the box.

$= 2(lb + bh + lh)$

$54 = 2(5 \times 3 + 3 \times x + 5 \times x)$

$54 = 2(15 + 3x + 5x)$

$54 = 2(15 + 8x)$

$\therefore \quad 2(15 + 8x) = 54$

$\Rightarrow \quad 30 + 16x = 54$

$\Rightarrow \quad 16x = 54 - 30$

$\Rightarrow \quad x = \frac{24}{16} = 1.5m$

$\therefore$ The height of the box = 1.5 m.

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