Exercise 17B

Question 7:
Length of the floor = 16 m
Breadth of the floor = 13.5 m
Area of floor = (16 x 13.5) m^2

$$\text{length of the carpet} = \frac{\text{Area of floor}}{\text{width of the carpet}}$$

$$= \frac{(16 \times 13.5)}{0.75} m = 288 m$$

Cost of carpet = Rs. 15 per meter
Cost of 288 meters of carpet = Rs. (15 × 288) = Rs. 4320

Question 8:
Area of floor = Length × Breadth
= (24 x 18) m^2
Area of carpet = Length × Breadth
= (2.5 x 0.8) m^2

Number of carpets = $\frac{\text{Area of floor}}{\text{Area of carpet}} = \frac{(24 \times 18) m^2}{(2.5 \times 0.8) m^2}$
= 216
Hence the number of carpet pieces required = 216

Question 9:
Area of verandah = (36 × 15) m^2 = 540 m^2
Area of stone = (0.6 × 0.5) m^2 [10 dm = 1 m]

Number of stones required = $\frac{\text{Area of verandah}}{\text{Area of stone}} = \frac{540}{0.3} = 1800$
Hence, 1800 stones are required to pave the verandah.

Question 10:
Perimeter of rectangle = 2(l + b)
2(l + b) = 56 ⇒ l + b = 28 cm
b = (28 - l) cm
Area of rectangle = 192 m^2
l × (28 - l) = 192
28l - l^2 = 192
l^2 - 28l + 192 = 0
l^2 - 16l - 12l + 192 = 0
l(l - 16) - 12(l - 16) = 0
(l - 16) (l - 12) = 0
l = 16 or l = 12
Therefore, length = 16 cm and breadth = 12 cm

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