Playing with Numbers Ex 2.10 Q4

Answer :

We have to find the prime factorisation of 35, 56, and 91.

Prime factorisation of 35 = 5 × 7
Prime factorisation of 56 = 2 × 2 × 2 × 7
Prime factorisation of 91 = 7 × 13
∴ Required LCM = 2 × 2 × 2 × 5 × 7 × 13 = 3,640

Thus, 3,640 is the smallest number exactly divisible by 35, 56, and 91.
To get the remainder as 7:
Smallest number = 3,640 + 7 = 3,647
Thus, the required number is 3,647.

Playing with Numbers Ex 2.10 Q5

Answer :

We have to find the LCM of 32 and 36.
Prime factorisation of 32 = 2 × 2 × 2 × 2 × 2
Prime factorisation of 36 = 2 × 2 × 3 × 3

Required LCM = 2 × 2 × 2 × 2 × 2 × 3 × 3 = 288
∴ Minimum number of books required = LCM of 32 and 36 = 288 books

Playing with Numbers Ex 2.10 Q6

Answer :

We have to find the LCM of 80 cm, 85 cm, and 90 cm.
Prime factorisation of 80 = 2 × 2 × 2 × 2 × 5
Prime factorisation of 85 = 5 × 17
Prime factorisation of 90 = 2 × 3 × 3 × 5

∴ Required LCM = 2 × 2 × 2 × 2 × 3 × 3 × 5 × 17 = 12,240
∴ Required minimum distance = LCM of 80 cm, 85 cm, and 90 cm
= 12,240 cm
= 122 m 40 cm (since 1 m =100 cm)

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