Board –CBSE	Class –	Topic –Playing with Number Ex:3.6

Exercise – 3.6

Q1. Find the HCF of the following numbers:

(a) 18, 48

(b) 30, 42

(c) 18, 60

(d) 27,63

(e) 36,84

(f) 34, 102

(g) 70, 105, 175

(h) 91, 112, 49

(i) 18, 54, 81

(j) 12, 45, 75

Sol. (a) Given numbers are 18 and 48.

Prime factorisations of 18 and 48 are:

Here, the common factors are 2 and 3.

Hence, the HCF = 2 x 3 = 6.

(b) The given numbers are 30 and 42.

Prime factorisations of 30 and 42, are:

Here, the common factors are 2 and 3.

Hence, the HCF = 2 x 3 = 6.

(c) Given numbers are 18 and 60.

Prime factorisations of 18 and 60 are:

Here, the common factors are 2 and 3.

Hence, the HCF of 18 and 60 = 2 x 3 = 6.

(d) Given numbers are 27 and 63.

Prime factorisations of 27 and 63 are:

Here, the common factor is 3 (occurring twice).

Hence, the HCF = 3 x 3 = 9.

(e) Given numbers are 36 and 84.

Prime factorisations of 36 and 84 are:

Here, the common factors are 2, 2 and 3.

Hence, the HCF = 2 x 2 x 3 = 12.

(f) Given numbers are 34 and 102.

Prime factorisations of 34 and 102 are:

Here, the common factors are 2 and 17.

Thus, HCF is 2 x 17 = 34.

(g) The given numbers are 70, 105 and 175.

Prime factorization of 70, 105 and 175 are:

Here, common factors are 5 and 7.

Hence, the HCF of 70, 105 and 175 is 5 x 7 = 35.

(h) Given numbers are 91, 112 and 49.

Prime factorisations of 91, 112 and 49 are:

Here, the common factor is 7.

Hence, the HCF = 7.

(i) Given numbers are 18, 54 and 81.

Prime factorisations of 18, 54 and 81 are:

Here, the common factor is 3 (occurring twice).

Thus, the HCF = 3 x 3 = 9.

(j) Given numbers are 12, 45 and 75.

Prime factorisations of 12, 45 and 75 are:

Here, the common factor is 3.

Hence, the HCF = 3

Q2. What is the HCF of two consecutive

(a) numbers?

(b) even numbers?

(c) odd numbers?

Sol. (a) The common factor of two consecutive numbers is always 1.

Hence, the HCF = 1.

(b) The common factors of two consecutive even numbers are 1 and 2.

Hence, the HCF = 1 x 2 = 2.

(c) The common factor of two consecutive odd numbers is 1.

Hence, the HCF $= 1$.

No, the answer is not correct.

Reason: 0 is not the prime factor of any number.

1 is always the prime factor of co-prime numbers.

Hence, the correct HCF of 4 and 15 is 1.