Playing with Numbers Ex 2.6 Q1

Answer :

(i) 144 and 198

Prime factorisation of 144 = 2 × 2 × 2 × 2 ×3 × 3
Prime factorisation of 198 = 2 × 3 × 3 × 11
∴ HCF = 2 × 3 × 3 = 18

(ii) 81 and 117

Prime factorisation of 81 = 3 ×3 × 3 × 3
Prime factorisation of 117 = 3 × 3 × 13
∴ HCF = 3 × 3 = 9

(iii) 84 and 98

Prime factorisation of 84 = 2 × 2 × 3 × 7
Prime factorisation of 98 = 2 × 7 × 7
∴ HCF = 2 × 7 = 14

(iv) 225 and 450

Prime factorisation of 225 = 3 × 3 × 5 × 5
Prime factorisation of 450 = 2 × 3 × 3 × 5 × 5

$\therefore$ HCF = $3 \times 3 \times 5 \times 5 = 225$

(v) 170 and 238

Prime factorisation of $170 = 2 \times 5 \times 17$

Prime factorisation of $238 = 2 \times 7 \times 17$

$\therefore$ HCF = $2 \times 17 = 34$

(vi) 504 and 980

We have

Prime factorisation of $504 = 2 \times 2 \times 2 \times 3 \times 3 \times 7$

Prime factorisation of $980 = 2 \times 2 \times 5 \times 7 \times 7$

$\therefore$ HCF = $2 \times 2 \times 7 = 28$

(vii) 150, 140 and 210

Prime factorisation of $150 = 2 \times 3 \times 5 \times 5$

Prime factorisation of $140 = 2 \times 2 \times 5 \times 7$

Prime factorisation of $210 = 2 \times 3 \times 5 \times 7$

$\therefore$ HCF = $2 \times 5 = 10$

(viii) 84, 120 and 138

Prime factorisation of $84 = 2 \times 2 \times 3 \times 7$

Prime factorisation of $120 = 2 \times 2 \times 2 \times 3 \times 5$

Prime factorisation of $138 = 2 \times 3 \times 23$

$\therefore$ HCF = $2 \times 3 = 6$

(ix) 106, 159, and 265

Prime factorisation of $106 = 2 \times 53$

Prime factorisation of $159 = 3 \times 53$

Prime factorisation of $265 = 5 \times 53$

$\therefore$ HCF = 53

Playing with Numbers Ex 2.6 Q2

Answer :

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

∴ HCF of two consecutive numbers = 1

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

∴ HCF of two consecutive even numbers = 2

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

∴ HCF of two consecutive odd numbers = 1

Playing with Numbers Ex 2.6 Q3

Answer :

No, it is not correct.

We know that HCF of two co-prime number is 1.

4 and 15 are co-prime numbers because the only factor common to them is 1.

Thus, HCF of 4 and 15 is 1.

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