Access NCERT Solutions for Class 6 Chapter 3: Playing with Numbers Exercise 3.6

1. 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

Solutions:

(a) 18, 48

2	18
3	9
3	3
	1

2	48
2	24
2	12
2	6
3	3
	1

18 = 2 × 3 × 3

48 = 2 × 2 × 2 × 2 × 3

HCF = 2 × 3 = 6

Therefore the HCF of 18, 48 is 6

(b) 30, 42

2	30
3	15
5	5
	1

2	42
3	21
7	7
	1

30 = 2 × 3 × 5

42 = 2 × 3 × 7

HCF = 2 × 3 = 6

Therefore the HCF of 30, 42 is 6

(c) 18, 60

2	18
3	9
3	3
	1

2	60
2	30
3	15
5	5
	1

18 = 2 × 3 × 3

60 = 2 × 2 × 3 × 5

HCF = 2 × 3 = 6

Therefore the HCF of 18, 60 is 6

(d) 27, 63

3	27
3	9
3	3
	1

3	63
3	21
7	7
	1

$27 = 3 \times 3 \times 3$

$63 = 3 \times 3 \times 7$

$HCF = 3 \times 3 = 9$

Therefore the HCF of 27, 63 is 9

(e) 36, 84

2	36
2	18
3	9
3	3
	1

2	84
2	42
3	21
7	7
	1

$36 = 2 \times 2 \times 3 \times 3$

$84 = 2 \times 2 \times 3 \times 7$

$HCF = 2 \times 2 \times 3 = 12$

Therefore the HCF of 36, 84 is 12

(f) 34, 102

2	34
17	17
	1

2	102
3	51
17	17
	1

$34 = 2 \times 17$

$102 = 2 \times 3 \times 17$

$HCF = 2 \times 17 = 34$

Therefore the HCF of 34, 102 is 34

(g) 70, 105, 175

2	70
5	35
7	7
	1

3	105
5	35
7	7
	1

5	175
5	35
7	7
	1

$70 = 2 \times 5 \times 7$

$105 = 3 \times 5 \times 7$

$175 = 5 \times 5 \times 7$

$HCF = 5 \times 7 = 35$

Therefore the HCF of 70, 105, 175 is 35

(h) 91, 112, 49

7	91
13	13
	1

2	112
2	56
2	28
2	14
7	7
	1

7	49
7	7
	1

$91 = 7 \times 13$

$112 = 2 \times 2 \times 2 \times 2 \times 7$

$49 = 7 \times 7$

$HCF = 7$

Therefore the HCF of 91, 112, 49 is 7

(i) 18, 54, 81

2	18
3	9
3	3
	1

2	54
3	27
3	9
3	3
	1

3	81
3	27
3	9
3	3
	1

18 = 2 × 3 × 3

54 = 2 × 3 × 3 × 3

81 = 3 × 3 × 3 × 3

HCF = 3 × 3 = 9

Therefore the HCF of 18, 54, 81 is 9

(j) 12, 45, 75

2	12
2	6
3	3
	1

3	45
3	15
5	5
	1

3	75
5	25
5	5
	1

12 = 2 × 2 × 3

45 = 3 × 3 × 5

75 = 3 × 5 × 5

HCF = 3

Therefore the HCF of 12, 45, 75 is 3

2. What is the HCF of two consecutive

(a) numbers?

(b) even numbers?

(c) odd numbers?

Solutions:

(a) The HCF of two consecutive numbers is 1

Example: The HCF of 2 and 3 is 1

(b) The HCF of two consecutive even numbers is 2

Example: The HCF of 2 and 4 is 2

(c) The HCF of two consecutive odd numbers is 1

Example: The HCF of 3 and 5 is 1

3. HCF of co-prime numbers 4 and 15 was found as follows by factorisation:

4 = 2 × 2 and 15 = 3 × 5 since there is no common prime factor, so HCF of 4 and 15 is 0. Is the answer correct? If not, what is the correct HCF?

Solutions:

No. The answer is not correct. The correct answer is 1.