Access NCERT Solutions for Class 6 Chapter 3: Playing with Numbers Exercise 3.4

1**. Find the common factors of:**

(a) 20 and 28

(b) 15 and 25

(c) 35 and 50

(d) 56 and 120

Solutions:

(a) 20 and 28

1, 2, 4, 5, 10 and 20 are factors of 20

1, 2, 4, 7, 14 and 28 are factors of 28

Common factors = 1, 2, 4

(b) 15 and 25

1, 3, 5 and 15 are factors of 15

1, 5 and 25 are factors of 25

Common factors = 1, 5

(c) 35 and 50

1, 5, 7 and 35 are factors of 35

1, 2, 5, 10, 25 and 30 are factors of 50

Common factors = 1, 5

(d) 56 and 120

1, 2, 4, 7, 8, 14, 28 and 56 are factors of 56

1, 2, 3, 4, 5, 6, 8, 10, 12, 15, 20, 24, 30, 40, 60 and 120 are factors of 120

Common factors = 1, 2, 4, 8

2. Find the common factors of:

(a) 4, 8 and 12

(b) 5, 15 and 25

Solutions:

(a) 4, 8 and 12

1, 2, 4 are factors of 4

1, 2, 4, 8 are factors of 8

1, 2, 3, 4, 6, 12 are factors of 12

Common factors = 1, 2, 4

(b) 5, 15 and 25

1, 5 are factors of 5

1, 3, 5, 15 are factors of 15

1, 5, 25 are factors of 25

Common factors = 1, 5

3. Find first three common multiples of:

(a) 6 and 8

(b) 12 and 18

Solutions:

(a) 6 and 18

6, 12, 18, 24, 30 are multiples of 6

8, 16, 24, 32 are multiples of 8

Three common multiples are 24, 48, 72

(b) 12 and 18

12, 24, 36, 48 are multiples of 12

18, 36, 54, 72 are multiples of 18

Three common factors are 36, 72, 108

4. Write all the numbers less than 100 which are common multiples of 3 and 4.

Solutions:

Multiples of 3 are 3, 6, 9, 12, 15

Multiples of 4 are 4, 8, 12, 16, 20

Common multiples are 12, 24, 36, 48, 60, 72, 84 and 96

5. Which of the following numbers are co-prime?

(a) 18 and 35

(b) 15 and 37

(c) 30 and 415

(d) 17 and 68

(e) 216 and 215

(f) 81 and 16

Solutions:

(a) 18 and 35

Factors of 18 are 1, 2, 3, 6, 9, 18

Factors of 35 are 1, 5, 7, 35

Common factor = 1

Since, their common factor is 1. Hence, the given two numbers are co-prime

(b) 15 and 37

Factors of 15 are 1, 3, 5, 15

Factors of 37 are 1, 37

Common factors = 1

Since, their common factor is 1. Hence, the given two numbers are co-prime

(c) 30 and 415

Factors of 30 are 1, 2, 3, 5, 6, 10, 15, 30

Factors of 415 are 1, 5, 83, 415

Common factors = 1, 5

Since, their common factor is other than 1. Hence, the given two numbers are not co-prime

(d) 17 and 68

Factors of 17 are 1, 17

Factors of 68 are 1, 2, 4, 17, 34, 68

Common factors = 1, 17

Since, their common factor is other than 1. Hence, the given two numbers are not co-prime

(e) 216 and 215

Factors of 216 are 1, 2, 3, 4, 6, 8, 9, 12, 18, 24, 27, 36, 54

Factors of 215 are 1, 5, 43, 215

Common factors = 1

Since, their common factor is 1. Hence, the given two numbers are co-prime

(f) 81 and 16

Factors of 81 are 1, 3, 9, 27, 81

Factors of 16 are 1, 2, 4, 8, 16

Common factors = 1

Since, their common factor is 1. Hence, the given two numbers are co-prime

6. A number is divisible by both 5 and 12. By which other number will that number be always divisible?

Solutions:

Factors of 5 are 1, 5

Factors of 12 are 1, 2, 3, 4, 6, 12

Their common factor = 1

Since, their common factor is 1. The given two numbers are co-prime and is also divisible by their product 60

Factors of 60 are 1, 2, 3, 4, 5, 6, 10, 12, 15, 20, 30, 60

7. A number is divisible by 12. By what other numbers will that number be divisible?

Solutions:

Since, the number is divisible by 12. Hence, it also divisible by its factors i.e 1, 2, 3, 4, 6, 12

Therefore 1, 2, 3, 4, 6 are the numbers other than 12 by which this number is also divisible