

Board –CBSE

Class – 6<sup>th</sup>

Topic –Playing with Number Ex:3.4

## Exercise – 3.4

**Q1.** Find the common factors of:

- (a) 20 and 28
- (b) 15 and 25
- (c) 35 and 50
- (d) 56 and 120

**Sol.** (a) Given numbers are : 20 and 28

Factors of 20 are 1, 2, 4, 5, 10, 20

Factors of 28 are 1, 2, 4, 7, 28

Hence, the common factors are 1, 2 and 4.

(b) Given numbers are: 15 and 25

Factors of 15 are 1, 3, 5, 15

Factors of 25 are 1, 5, 25

Hence, the common factors are 1 and 5.

(c) Given numbers are: 35 and 50

Factors of 35 are: 1, 5, 7, 35

Factors of 50 are: 1, 2, 5, 10, 50

Hence, the common factors are 1 and 5.

(d) Given numbers are: 56 and 120

Factors of 56 are 1, 2, 4, 7, 8, 14, 28, 56

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

Hence, the common factors are 1, 2, 4, and 8.

**Q2.** Find the common factors of:

- (a) 4, 8 and 12
- (b) 5, 15 and 25
- (c) 8, 9, 4, 8

**Sol.** (a) Given numbers are: 4, 8 and 12

Factors of 4 are 1, 2, 4

Factors of 8 are 1, 2, 4, 8

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

Hence, the common factors are 1, 2 and 4.

(b) Given numbers are: 5, 15 and 25

Factors of 5 are 1, 5

Factors of 15 are 1, 3, 5, 15

Factors of 25 are 1, 5, 25

Hence, the common factors are 1 and 5.

**Q3.** Find first three multiples of:

(a) 6 and 8

(b) 12 and 18

**Sol.** (a) Given numbers are 6 and 8

First three multiples of 6 are

$6 \times 1 = 6$ ;  $6 \times 2 = 12$ ;  $6 \times 3 = 18$ .

First three multiples of 8 are

$8 \times 1 = 8$ ;  $8 \times 2 = 16$ ;  $8 \times 3 = 24$ .

(b) Given numbers are 12 and 18.

First three multiples of 12 are

$12 \times 1 = 12$ ;

$12 \times 2 = 24$ ;

$12 \times 3 = 36$ ;

First three multiples of 18 are

$18 \times 1 = 18$ ;

$18 \times 2 = 36$ ;

$18 \times 3 = 54$ .

**Q4.** Write all the numbers less than 100 which are common multiples of 3 and 4.

**Sol.** Given numbers are 3 and 4.

Multiples of 3 less than 100 are:

Hence, the common multiples of 3 and 4 less than 100 are: 12, 24, 36, 48, 60, 72, 84 and 96.

**Q5.** 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

**Sol.** (a) Given number are 18 and 35

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

Factors of 35 are 1, 5, 7, 35

Since, the common factors of 18 and 35 is only 1.

Hence, 18 and 35 are co-prime.

(b) Given numbers are 15 and 37

Factors of 15 are 1, 3, 5, 15

Factors of 37 are 1, 37

Since, the common factor of 15 and 37 is only 1.

Hence, they are co-prime.

(c) Given numbers are 30 and 415

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

Factors of 415 are 1, 5, 83

Since, the numbers have common factors 1 and 5

Hence, they are not co-prime.

(d) Given numbers are 17 and 68

Factors of 17 are 1, 17

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

Since, the numbers have common factors 1 and 17

Hence, they are not co-prime.

(e) Given numbers are 216 and 215

Factors of 216 are 1, 2, 3, 4, 6, 8, 9, 12, 18, 24, 36, 54, 72, 108, 216

Factors of 215 are 1, 5, 43

Since only 1 is the common factor of 216 and 215.

Hence, they are co-prime.

(f) Given numbers are 81 and 16

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

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

Since only 1 is common to 81 and 16

Hence, they are co-prime.

**Q6.** A number is divisible by both 5 and 12. By which other will that number be always divisible?

**Sol.** If the number is divisible by both 5 and 12 this the number will also be divisible by  $5 \times 12$  i.e., 60.

**Q7.** A number is divisible by 12. By what other will that number be divisible?

**Sol.** Factors of 12 are 1, 2, 3, 4, 6, 12

Hence the number which is divisible by 12, will also be divisible by its factors i.e., 1, 2, 3, 4, 6 and 12.