Exercise 2.2

Question: 1

Find the common factors of:

Solution:

(i) 15 and 25

15 = 1 × 15

15 = 3 × 5

i.e., the factors of 15 are 1, 3, 5 and 15.

Again, 25 = 1 × 25

25 = 5 × 5 i.e., the factors of 25 are 1, 5 and 25.

Therefore, the common factors of the two numbers are 1 and 5.

(ii) 35 and 50

35 = 1 × 35

35 =5 × 7 i.e., the factors of 35 are 1, 5, 7 and 35.

Again, 50 = 1 × 50

50 = 2 × 25

50 = 5 × 10

i.e., the factors of 50 are 1, 2, 5, 10, 25 and 50.

Therefore, the common factors of the two numbers are 1 and 5.

(iii) 20 and 28

20 = 1 × 20

20 = 2 × 10

20 =4 × 5

i.e., the factors of 20 are 1, 2 , 4, 5, 10 and 20.

Again, 28 = 1 × 28

28 = 2 × 14

28 =7 × 4

i.e., the factors of 28 are 1, 2, 4, 7, 14 and 28.

Therefore, the common factors of the two numbers are 1, 2 and 4.

Question: 2

Find the common factors of:

Solution:

(i) 5, 15 and 25

Factors of 5 are 1 and 5

Factors of 15 are 1, 3, 5 and 15

Factors of 25 are 1, 5 and 25

Therefore, the common factors of 5, 15, and 25 are 1 and 5.

(ii) 2, 6 and 8

Factors of 2 are 1 and 2

Factors of 6 are 1, 2, 3 and 6

Factors of 8 are 1, 2, 4 and 8

Therefore, the common factors of 2, 6 and 8 are 1 and 2.

Question: 3

Find first three common multiples of 6 and 8

Solution:

Multiples of 6: 6, 12, 18, 24, 30, 36, 42, 48, 54, 60, 66, 72, 78, 84…

Multiples of 8: 8, 16, 24, 32, 40, 48, 56, 64, 72, 80, 88, 96…

Therefore, the first three common multiples of 6 and 8 are 24, 48 and 72.

Question: 4

Find first two common multiples of 12 and 18.

Solution:

Multiples of 12: 12, 24, 36, 48, 60, 72, 84, 96, 108, 120, 132…

Multiples of 18: 18, 36, 54, 72, 90, 108, 126, 144, 162, 180, 198…

Therefore, the first two common multiples of 12 and 18 are 36 and 72.

Question: 5

A number is divisible by both 7 and 16. By which other number will that number be always divisible?

Solution:

Since the number is divisible by 7 and 16, they are the factors of that number.

So, the number will be divisible by the common factor of 7 and 16.

The factors of 7 are 1 and 7.

The factors of 16 are 1, 2, 4, 8, and 16.

Therefore, the common factor of 7 and 16 is 1 and the number is divisible by 1.

Question: 6

A number is divisible by 24. By what other numbers will that number be divisible?

Solution:

Since the number is divisible by 24, it will be divisible by all the factors of 24.

The factors of 24 are 1, 2, 3, 4, 6, 8, 12 and 24.

Hence, the number is also divisible by 1, 2, 3, 4, 6, 8 and 12.