

EXERCISE 2.2

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1. Find the common factors of:**(i) 15 and 25****(ii) 35 and 50****(iii) 20 and 28****Solution:**

(i) 15 and 25

We know that

$$1 \times 15 = 15$$

$$3 \times 5 = 15$$

Factors of 15 are 1, 3, 5 and 15.

We know that

$$1 \times 25 = 25$$

$$5 \times 5 = 25$$

Factors of 25 are 1, 5 and 25.

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

(ii) 35 and 50

We know that

$$1 \times 35 = 35$$

$$5 \times 7 = 35$$

Factors of 35 are 1, 5, 7 and 35.

We know that

$$1 \times 50 = 50$$

$$2 \times 25 = 50$$

$$5 \times 10 = 50$$

Factors of 50 are 1, 2, 5, 10, 25 and 50.

Therefore, the common factors of 35 and 50 are 1 and 5.

(iii) 20 and 28

We know that

$$1 \times 20 = 20$$

$$2 \times 10 = 20$$

$$4 \times 5 = 20$$

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

We know that

$$1 \times 28 = 28$$

$$2 \times 14 = 28$$

$$7 \times 4 = 28$$

Factors of 28 are 1, 2, 4, 7, 14 and 28.

Therefore, the common factors of 20 and 28 are 1, 2 and 4.

2. Find the common factors of:**(i) 5, 15 and 25****(ii) 2, 6 and 8****Solution:**

(i) 5, 15 and 25

We know that

For 5

$$1 \times 5 = 5$$

Factors of 5 are 1 and 5

For 15

$$1 \times 15 = 15$$

$$3 \times 5 = 15$$

Factors of 15 are 1, 3, 5 and 15

For 25

$$1 \times 25 = 25$$

$$5 \times 5 = 25$$

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

We know that

For 2

$$1 \times 2 = 2$$

Factors of 2 are 1 and 2

For 6

$$1 \times 6 = 6$$

$$2 \times 3 = 6$$

Factors of 6 are 1, 2, 3 and 6

For 8

$$1 \times 8 = 8$$

$$2 \times 4 = 8$$

Factors of 8 are 1, 2, 4 and 8

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

3. Find first three common multiples of 6 and 8.**Solution:**

We know that the multiples of 6 are

6, 12, 18, 24, 30, 36, 42, 48, 54, 60, 66, 72

Multiples of 8 are

8, 16, 24, 32, 40, 48, 56, 64, 72, 80

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

4. Find first two common multiples of 12 and 18.**Solution:**

We know that multiples of 12 are
12, 24, 36, 48, 60, 72, 84, 96, 108, 120

Multiples of 18 are
18, 36, 54, 72, 90, 108, 126, 144, 162, 180

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

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

Solution:

It is given that a number is divisible by both 7 and 16.
We know that the factors of 7 are 1 and 7 and the factors of 16 are 1, 2, 4, 8 and 16

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

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

Solution:

It is given that a number is divisible by 24
We know that the factors of 24 are
1, 2, 3, 4, 6, 8, 12 and 24

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