

Chapter - 5Multiples and Factors

Multiples \Rightarrow Multiples of a number are what we get after multiplying the number on a natural number.

Factors \rightarrow A number which divides a given number completely and leaves no remainder is called the factor of given number.

Exercise 5.1

Q1. Write first four multiples of the following:-

(i)

4

$$4 \times 2 \Rightarrow 8$$

$$4 \times 3 \Rightarrow 12$$

$$4 \times 4 \Rightarrow 16$$

$$4 \times 5 \Rightarrow 20$$

(ii)

7

$$7 \times 2 = 14$$

$$7 \times 3 = 21$$

$$7 \times 4 = 28$$

$$7 \times 5 = 35$$

(iii)

14

$$14 \times 2 = 28$$

$$14 \times 3 = 42$$

$$14 \times 4 = 56$$

$$14 \times 5 = 70$$

(d)

19

$$19 \times 2 = 38$$

$$19 \times 3 = 57$$

$$19 \times 4 = 76$$

$$19 \times 5 = 95$$

Q2. Encircle on the multiples of given numbers.

(i) 3 - 5, 9, (3), 13, (18)

(ii) 5 - (45), 11, (10), 22, (55)

(iii) 12 - (12), (36), 32, (48), 18

(iv) 15 - 25, 35, (15), 40, (45)

Q3. Encircle on the multiples of both 3 and 4 in the following: 6, (12), 15, 18, (24), 30.

Q4. Write the multiples of 7 between 10 and 30.

Ans. 10, 11, 12, 13, (14), 15, 16, 17, 18, 19, 20
(21), 22, 23, 24, 25, 26, 27, (28), 29, 30

Multiples of 7 = 14, 21, 28.

Q5. Write the multiples of 4 greater than 25.

Ans. 4, 8, 12, 16, 20, 24, 28, 32, 36, 40

Multiples of 4 \Rightarrow 28, 32, 36, 40.

Q6. Write the smallest multiple of 2 and 5.

Ans. 2 \rightarrow 2, 4, 6, 8, (10), 12, 14, 16, 18, (20)

5 \rightarrow 5, (10), 15, (20), 25, 30, 35, 40, 45, 50

Smallest multiple of 2 and 5 \Rightarrow 10.

Q2. Write the smallest multiple of 8 and 12.

Ans. $8 \rightarrow 8, 16, 24, 32, 40, 48, 56, 64, 72, 80,$
 $12 \rightarrow 12, 24, 36, 48, 60, 72, 84, 96, 108, 120.$

Smallest multiple of 8 and 12 $\Rightarrow 24.$

Q3. Write the smallest multiple of 6, 9 and 15.

Ans. $6 \rightarrow 6, 12, 18, 24, 30, 36, 42, 48, 54, 60, 66,$
 $72, 78, 84, 90$

$9 \rightarrow 9, 18, 27, 36, 45, 54, 63, 72, 81, 90$

$15 \rightarrow 15, 30, 45, 60, 75, 90, 105, 120, 135, 150$

Smallest multiples of 6, 9 and 15 $\Rightarrow 90.$

Q4. Write five multiples of 3 which is greater than

20.

Ans. $3 \rightarrow 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33$

multiples of 3 greater than 20 are $\Rightarrow 21, 24, 27,$
 $30, \text{ and } 33.$

Q10. Find out the common multiples of 5 and 6.
Write the smallest multiples.

Ans 5 \rightarrow 5, 10, 15, 20, 25, 30, 35, 40, 45, 50
6 \rightarrow 6, 12, 18, 24, 30, 36, 42, 48, 54, 60

Smallest multiples of 5 and 6 are \Rightarrow 30.

Q11. Find the four multiples of the following:-

(i) 6
 $6 \times 2 = 12$
 $6 \times 3 = 18$
 $6 \times 4 = 24$
 $6 \times 5 = 30$

(ii) 8
 $8 \times 2 = 16$
 $8 \times 3 = 24$
 $8 \times 4 = 32$
 $8 \times 5 = 40$

(iii) 15
 $15 \times 2 = 30$
 $15 \times 3 = 45$
 $15 \times 4 = 60$
 $15 \times 5 \Rightarrow 75$

(iv) 19
 $19 \times 2 = 38$
 $19 \times 3 = 57$
 $19 \times 4 = 76$
 $19 \times 5 = 95$

Q2. Write 18 multiples of 9 and 6 and also write common multiples.

Multiples of 9 :- 9, 18, 27, 36, 45, 54, 63, 72, 81, 90, 99, 108, 117, 126, 135, 144, 153, 162.

Multiples of 6 :- 6, 12, 18, 24, 30, 36, 42, 48, 54, 60, 66, 72, 78, 84, 90, 96, 102, 108.

Common multiples of 9 and 6 are $\Rightarrow 18, 36, 54, 72, 90$ and 108.

Exercise 5.2

Q1. Find the factors of the following:-

(i) $7 \rightarrow 1, 7$

(ii) $9 \rightarrow 1, 3 \text{ and } 9$

(iii) $16 \rightarrow 1, 2, 4, 8 \text{ and } 16.$

(iv) $25 \rightarrow 1, 5, 25$

(v) $48 \rightarrow 1, 2, 4, 6, 8, 12, 16, 24, 48$

(vi) $63 \rightarrow 1, 3, 7, 9, 21, 63$

Q2. Find the Common factors of the following:-

(i) 8 and 12

Ans $8 \rightarrow 1, 2, 4 \text{ and } 8.$

$12 \rightarrow 1, 2, 3, 4, 6 \text{ and } 12.$

Common factors of 8 and 12 $\Rightarrow 1, 2 \text{ and } 4.$

(ii) 10 and 20

Ans $10 \rightarrow 1, 2, 5 \text{ and } 10$

$20 \rightarrow 1, 2, 4, 5, 10 \text{ and } 20$

Common factors of 10 and 20 $\Rightarrow 1, 2, 5 \text{ and } 10$

iii) 7 and 16

Ans \rightarrow 7 \rightarrow (1), 7

16 \rightarrow (1), 2, 4, 8 and 16

Common factors of 7 and 16 = 1

iv) 18 and 32

Ans \rightarrow 18 \Rightarrow (1), (2), 3, 6 and 9, 18

32 \Rightarrow (1), (2), 4, 8, 16 and 32

Common factors of 18 and 32 \Rightarrow 1 and 2.

Q3. Find the largest factor of 21 and 28.

Ans 21 \Rightarrow (1), (7) and 3 and 21

28 \Rightarrow (1), 2, 4, (7) and 14, 28

Largest factor of 21 and 28 \Rightarrow 7.

Q4. Find the largest factor of 12, 18 and 24.

As 12 \rightarrow (1), (2), (3), 4, (6) and 12

18 \rightarrow (1), (2), (3), (6), 9 and 18

24 \rightarrow (1), (2), (3), 4, (6), 8, 12 and 24.

Largest factor of 12, 18 and 24 \Rightarrow 6.

Q5. Find the largest factor of 12 number by which

45 and 75 are divisible completely.

Ans. Factor of 45 \Rightarrow (1), (3), (5), 9, (15) and 45.

Factor of 75 \Rightarrow (1), (3), (5), (15), and 75

Largest no \Rightarrow 15.

Q6. Find the largest common factor of 15, 27 and 36.

Ans 15 \rightarrow (1), (3), 5 and 15

27 \rightarrow (1), (3), 9 and 27

36 \rightarrow (1), 2, (3), 4, 6, 9, 12, 18 and 36.

Common factor: 1, 3

Largest common factor of 15, 27 and 36 $=$ 3.

Q7. Two cans of milk contain 20 and 30 liters milk respectively. What is the measure of the largest utensils so that which can measure both cans completely.

Ans. Factor of 20 \Rightarrow (1), (2), 4, (5), (10) and 20

Factor of 30 \Rightarrow (1), (2), 3, (5), 6 and (10), 20

Common factors \Rightarrow 1, 2, 5 and 10,

Largest factor \Rightarrow 10 Ans.

Q.8. Find the largest common factor of the following:

ii) factor of 8.

factor of 16.

$\boxed{1, 2, 4 \text{ and } 8}$

$\boxed{1, 2, 4, 8 \text{ and } 16}$

Common factors
 $\boxed{1, 2, 4, 8}$

$\boxed{8}$

Largest common factors

iii) factor of 12

factor of 18

$\boxed{1, 2, 3, 4, 6 \text{ and } 12}$

$\boxed{1, 2, 3, 6, 9 \text{ and } 18}$

Common factors
 $\boxed{1, 2, 3, 6}$

$\boxed{6}$

Largest common factors.