

EXERCISE 9 (B)

Question 1.

Fill in the blanks :

- (i) On dividing 9 by 7, quotient = and remainder =
- (ii) On dividing 18 by 6, quotient = and remainder =
- (iii) Factor of a number is of
- (iv) Every number is a factor of
- (v) Every number is a multiple of
- (vi) is factor of every number.
- (vii) For every number, its factors are and its multiples are
- (viii) x is a factor of y , then y is a of x .

Solution:

- (i) On dividing 9 by 7, quotient = **1** and remainder = **3**
- (ii) On dividing 18 by 6, quotient = **3** and remainder = **0**
- (iii) Factor of a number is **an exact division of the number**
- (iv) Every number is a factor of **itself**
- (v) Every number is a multiple of **itself**
- (vi) **One** is factor of every number.
- (vii) For every number, its factors are **finite** and its multiples are **infinite**
- (viii) x is a factor of y , then y is a **multiple** of x .

Question 2.

Write all the factors of :

- (i) 16
- (ii) 21
- (iii) 39
- (iv) 48
- (v) 64
- (vi) 98

Solution:

- (i) 16

All factors of 16 are : 1, 2, 4, 8, 16

(ii) 21

All factors of 21 are : 1, 3, 7, 21.

(iii) 39

All factors of 39 are : 1, 3, 13, 39

(iv) 48

All factors of 48 are : 1, 2, 3, 4, 6, 8, 12, 16, 24, 48

(v) 64

All factors of 64 are : 1, 2, 4, 8, 16, 32, 64

(vi) 98

All factors of 98 are : 1, 2, 7, 14, 49, 98

Question 3.

Write the first six multiples of :

(i) 4

(ii) 9

(iii) 11

(iv) 15

(v) 18

(vi) 16

Solution:

(i) 4

Multiples of 4 = $1 \times 4, 2 \times 4, 3 \times 4, 4 \times 4, 4 \times 5, 4 \times 6$

First six multiples of 4 are : 4, 8, 12, 16, 20, 24

(ii) 9

Multiples of 9 = $1 \times 9, 2 \times 9, 3 \times 9, 4 \times 9, 5 \times 9, 6 \times 9$

First six multiples of 9 are : 9, 18, 27, 36, 45, 54

(iii) 11

Multiples of 11 = $1 \times 11, 2 \times 11, 3 \times 11, 4 \times 11, 5 \times 11, 6 \times 11$

First six multiples of 11 are : 11, 22, 33, 44, 55, 66

(iv) 15

Multiples of 15 = $1 \times 15, 2 \times 15, 3 \times 15, 4 \times 15, 5 \times 15, 6 \times 15$

First six multiples of 15 are : 15, 30, 45, 60, 75, 90

(v) 18

Multiples of 18 = $1 \times 18, 2 \times 18, 3 \times 18, 4 \times 18, 5 \times 18, 6 \times 18$

First six multiples of 18 are : 18, 32, 54, 72, 90, 108

(vi) 16

Multiples of 16 = $1 \times 16, 2 \times 16, 3 \times 16, 4 \times 16, 5 \times 16, 6 \times 16$

First six multiples of 16 are : 16, 32, 48, 64, 80, 96

Question 4.

The product of two numbers is 36 and their sum is 13. Find the numbers.

Solution:

Since, $36 = 1 \times 36, 2 \times 18, 3 \times 12, 4 \times 9, 6 \times 6$

Clearly, numbers are 4 and 9

Question 5.

The product of two numbers is 48 and their sum is 16. Find the numbers.

Solution:

Since, $48 = 1 \times 48, 2 \times 24, 3 \times 16, 4 \times 12, 6 \times 8$

Clearly, numbers are 4 and 12.

Question 6.

Write two numbers which differ by 3 and whose product is 54.

Solution:

Since, $54 = 1 \times 54, 2 \times 27, 3 \times 18, 6 \times 9$

Clearly, numbers are 6 and 9.

Question 7.

Without making any actual division show that 7007 is divisible by 7.

Solution:

7007

$$= 7000 + 7$$

$$= 7 \times (1000 + 1)$$

$$= 7 \times 1001$$

Clearly, 7007 is divisible by 7.

Question 8.

Without making any actual division, show that 2300023 is divisible by 23.

Solution:

$$2300023 = 2300000 + 23$$

$$= 23 \times (100000 + 1)$$

$$= 23 \times 100001$$

Clearly, 2300023 is divisible by 23.

Question 9.

Without making any actual division, show that each of the following numbers is divisible by 11.

(i) 11011

(ii) 110011

(iii) 11000011

Solution:

$$(i) 11011 = 11000 + 11$$

$$= 11 \times (1000 + 1)$$

$$= 11 \times 1001$$

Clearly, 11011 is divisible by 11.

(ii) 110011

$$= 110000 + 11$$

$$= 11 \times (10000 + 1)$$

$$= 11 \times 10001$$

Clearly, 110011 is divisible by 11.

$$\begin{aligned} & \text{(iii) } 11000011 \\ & = 11000000 + 11 \\ & = 11 \times (1000000 + 1) \\ & = 11 \times 1000001 \end{aligned}$$

Clearly, 110000 is divisible by 11.

Question 10.

Without actual division, show that each of the following numbers is divisible by 8 :

- (i) 1608
- (ii) 56008
- (iii) 240008

Solution:

$$\begin{aligned} & \text{(i) } 1608 \\ & = 1600 + 8 \\ & = 8(200 + 1) \\ & = 8 \times 201 \end{aligned}$$

Clearly, 1608 is divisible by 8.

$$\begin{aligned} & \text{(ii) } 56008 \\ & = 56000 + 8 \\ & = 8 \times (7000 + 1) \\ & = 8 \times 7001 \end{aligned}$$

Clearly, 56008 is divisible by 8.

$$\begin{aligned} & \text{(iii) } 240008 \\ & = 240000 + 8 \\ & = 8 \times (30000 + 1) \\ & = 8 \times 30001 \end{aligned}$$

Clearly, 240008 is divisible by 8.