Chap - 5
Factors.

Q.3. Use multiplication to find the factors of.

a) $20 = 1 \times 20$
2×10
4×5

Ans 1, 2, 4, 5, 10 and 20 are factors of 20.

b) 55

Ans 1×55
5×11

1, 5, 11 and 55 are the factors of 55

c) 12.

Ans 1×12
2×6
3×4

1, 2, 3, 4, 6, 12 are factors of 12.

d. 14

Ans. 1×14
2×7

1, 2, 7 and 14 are factors of 14.

e. 48

Ans 1×48
2×24
3×16
4×12
6×8

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

f. 16

Ans. 1×16
2×8
4×4

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

g. 42

Ans. | 1×42
2×21
3×14
6×7

1, 2, 3, 6, 7, 14, 21 and 42 are factors of 42.

h. 24

Solu | 1×24
2×12
3×8
4×6

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

i) 37

Ans | 1×37

1, and 37 are factors of 37.

Q.4 Use division to find the factors of

a. 15

Soln

$15 \div 1 = 15$

$15 \div 3 = 5$

$15 \div 5 = 3$

$15 \div 15 = 1$

Factors of 15 are 1, 3, 5, 15

b. 42.

Soln

$42 \div 1 = 42$

$42 \div 2 = 21$

$42 \div 3 = 14$

$42 \div 6 = 7$

$42 \div 7 = 6$

$42 \div 14 = 3$

$42 \div 21 = 2$

$42 \div 42 = 1$

Factors of 42 are 1, 2, 3, 6, 7, 14, 21, 42

c. 56

Solu
$$56 \div 1 = 56$$
$$56 \div 2 = 28$$
$$56 \div 4 = 14$$
$$56 \div 7 = 8$$
$$56 \div 8 = 7$$
$$56 \div 14 = 4$$
$$56 \div 28 = 2$$
$$56 \div 56 = 1$$

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

d. 72

Solu.
$$72 \div 1 = 72$$
$$72 \div 2 = 36$$
$$72 \div 3 = 24$$
$$72 \div 4 = 18$$
$$72 \div 6 = 12$$
$$72 \div 8 = 9$$
$$72 \div 9 = 8$$
$$72 \div 12 = 6$$
$$72 \div 18 = 4$$
$$72 \div 24 = 3$$
$$72 \div 36 = 2$$
$$72 \div 72 = 1$$

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

e. 41

Solu
$$41 \div 1 = 41$$
$$41 \div 41 = 1$$

Factors of 41 are 1, 41

f. 81

Soln
$$81 \div 1 = 81$$
$$81 \div 3 = 27$$
$$81 \div 9 = 9$$
$$81 \div 27 = 3$$
$$81 \div 81 = 1$$

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

g. 28

Soln
$$28 \div 1 = 28$$
$$28 \div 2 = 14$$
$$28 \div 4 = 7$$
$$28 \div 7 = 4$$
$$28 \div 14 = 2$$
$$28 \div 28 = 1$$

factors of 28
are, 1, 2, 4, 7
14, 28

h. 63

Soln
$$63 \div 1 = 63$$
$$63 \div 3 = 21$$
$$63 \div 7 = 9$$
$$63 \div 9 = 7$$
$$63 \div 21 = 3$$
$$63 \div 63 = 1$$

factors of 63
are, 1, 3, 7, 9
21, 63

i. 54

Soln
$$54 \div 1 = 54$$
$$54 \div 2 = 27$$
$$54 \div 3 = 18$$
$$54 \div 6 = 9$$
$$54 \div 9 = 6$$
$$54 \div 18 = 3$$
$$54 \div 27 = 2$$
$$54 \div 54 = 1$$

factors of 54
are 1, 2, 3, 6, 9,
18, 27, 54.

5. True or False

Ans a   True

Ans b   False

Ans c   False

Ans d   True

Ans e   True

Ans f   False

6. Application in real life

Ans a   Books in piles of 1, 2, 3, 4, 6, 9, 12, 18, 36 each.

Ans b   Rows of 1, 2, 4, 5, 8, 10, 20, 40 children each.

Ans c   Boxes in piles of 1, 2, 4, 8, 16, 32 each.

Q.5 | Find the common factors

a. | 4, 5

Ans. | Factors of 4 = 1, 2, 4
Factors of 5 = 1, 5

Common factors = 1

b. | 4, 6

Ans. | Factors of 4 = 1, 2, 4
factors of 6 = 1, 2, 3

Common factors = 1, 2

c. | 6, 9

Ans | Factors of 6 = 1, 2, 3
Factors of 9 = 1, 3, 9

Common factors = 1, 3

d. 13, 36

Ans. Factors of 13 = 1, 13

Factors of 36 = 1, 2, 3, 4, 6, 9, 12, 36

common factors = 1

e. 12, 4

Ans. Factors of 12 = 1, 2, 3, 4, 6, 12

Factors of 4 = 1, 2, 4

common factors = 1, 2, 4

f. 16, 8

Ans. factors of 16 = 1, 2, 4, 8, 16

Factors of 8 = 1, 2, 4, 8

common factors = 1, 2, 4, 8

g. 30, 45

Ans. Factors of 30 = 1, 2, 3, 5, 10, 15, 30

Factors of 45 = 1, 3, 5, 9, 15, 45

Common factors = 1, 3, 5, 15

h. | 24, 72

Ans. | Factors of 24 = 1, 2, 4, 6, 8, 12, 24
Factors of 72 = 1, 2, 3, 4, 6, 8, 9, 12
18, 24, 36, 72

Common factors = 1, 2, 3, 4, 6, 8, 12
24

Q.6

Ans a. factors of 25 = ①, ⑤, 25
Factors of 20 = ①, 2, 4, ⑤, 10, 20

Common factors = 1, 5.

Rows of 1 and 5 students

Ans. b | Factors of 28 = ①, ②, 4, ⑦, ⑭
28

Factors of 42 = ①, ②, 3, 6, ⑦, ⑭, 21
42

Common factors = 1, 2, 7, 14

Boxes of 1, 2, 7 and 14