

Exercise 6.1

A) Write the first five multiples of each number given below.

1) 13 – 13, 26, 39, 52, 65

2) 10 – 10, 20, 30, 40, 50

3) 9 – 9, 18, 27, 36, 45

4) 17 – 17, 34, 51, 68, 85

5) 15 – 15, 30, 45, 60, 75

B) Circle the numbers that are.

1) Multiples of 8 : (16) 27 (32) 19 (40)

2) Multiples of 5 : (35) (10) 4 17 (20)

3) Multiples of 3 : 1 7 (9) (12) 13

C) Circle the multiples of 3 and cross out (x) the multiples of 6.

Then write their common multiples.

1 2 (3) 4 5 ~~6~~ 7 8 (9) 10
11 ~~12~~ 13 14 (15) 16 17 ~~18~~ 19 20
(21) 22 23 ~~24~~ 25 26 (27) 28 29 ~~30~~

Common multiples of 3 and 6 are : 6, 12, 18, 24, 30

D) Find the first two common multiples of the following:

1) 5, 6

Multiples of 5 : 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60

Multiples of 6 : 6, 12, 18, 24, 30, 36, 42, 48, 54, 60

First two common multiples of 5 and 6 are 30, 60.

2) 10, 20

Multiples of 10 : 10, 20, 30, 40

Multiples of 20 : 20, 40, 60

First two common multiples of 10 and 20 are 20, 40.

3) 7, 2

Multiples of 7 : 7, 14, 21, 28

Multiples of 2 : 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28

First two common multiples of 7 and 2 are 14, 28.

4) 4, 5

Multiples of 4 : 4, 8, 12, 16, 20, 24, 28, 32, 36, 40

Multiples of 5 : 5, 10, 15, 20, 25, 30, 35, 40

First two common multiples of 4 and 5 are 20, 40.

5) 8, 12

Multiples of 8 : 8, 16, 24, 32, 40, 48

Multiples of 12 : 12, 24, 36, 48

First two common multiples of 8 and 12 are 24, 48.

E) Write the following:

1) The 3rd multiple of 20 = $20 \times 3 = \underline{60}$

2) The 9th multiple of 18 = $18 \times 9 = \underline{162}$

3) The 5th multiple of 14 = $14 \times 5 = \underline{70}$

4) The 10th multiple of 12 = $12 \times 10 = \underline{120}$

F) Tick (✓) the pairs in which the second number is not the multiple of the first number.

1) 4, 40

2) 2, 14

3) 3, 16 (✓)

4) 9, 72

Exercise 6.2

A) Circle the even numbers and cross (✕) the odd numbers.

(82), (✕) 75, (✕) 93, (86), (24), (1000), (476), (42), (✕) 39

B) Write the following:

1) The smallest odd number - 1

2) The first five even numbers - 2, 4, 6, 8, 10

3) The smallest 6-digit odd number - 100001

4) Smallest even number between 100 and 110 - 102

5) First four 2-digit odd numbers - 11, 13, 15, 17, 19

6) Last three even numbers less than 502 - 496, 498, 500

Exercise 6.3

A) Answer the following using 'Yes' or 'No'.

- 1) $8 \times 3 = 24$; 24 is a multiple of 8 and 3.
 $\therefore$ 8 and 3 are the factors of 24. Yes
- 2) One is the factor of every number. Yes
- 3) The greatest factor of every number is the number itself. Yes
- 4) When a factor is divided by the number,
 There is always a remainder. No
- 5) 7 is a factor of 49. Yes

B) Circle the following:

1) Factors of 56:

(2), (7), 6, 5, 10, 3, (8)

2) Factors of 18:

(3), (2), 7, (9), 4, (18), (6)

C) Use multiplication to find the factors of:

1) 55 :

Using multiplication method:

$$1 \times 55 = 55$$

$$5 \times 11 = 55$$

Factors :- 1, 5, 11, 55

2) 63 :

Using multiplication method:

$$1 \times 63 = 63$$

$$3 \times 21 = 63$$

$$7 \times 9 = 63$$

Factors :- 1, 3, 7, 9, 21, 63

3) 74 :

Using multiplication method:

$$1 \times 74 = 74$$

$$2 \times 37 = 74$$

Factors :- 1, 2, 37, 74

4) 15 :

Using multiplication method:

$$1 \times 15 = 15$$

$$3 \times 5 = 15$$

Factors :- 1, 3, 5, 15

D) Use division to find the factors of :

1) 41

Using division method:

$$41 \div 1 = 41$$

Factors :- 1, 41

2) 50

Using division method:

$$50 \div 1 = 50$$

$$50 \div 2 = 25$$

$$50 \div 5 = 10$$

$$50 \div 10 = 5$$

Factors :- 1, 2, 5, 10, 25, 50

3) 54

Using division method:

$$54 \div 1 = 54$$

$$54 \div 2 = 27$$

$$54 \div 3 = 18$$

$$54 \div 6 = 9$$

$$54 \div 9 = 6$$

Factors :- 1, 2, 3, 6, 9, 18, 27, 54

4) 15

Using division method:

$$15 \div 1 = 15$$

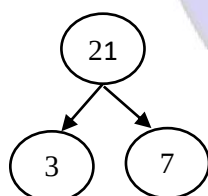
$$15 \div 3 = 5$$

$$15 \div 5 = 3$$

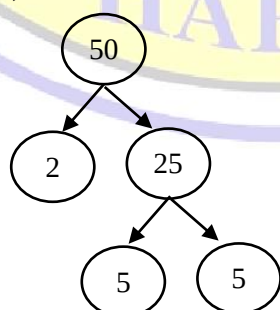
Factors :- 1, 3, 5, 15

E) Make a factor tree for each. Do not use 1 as a factor.

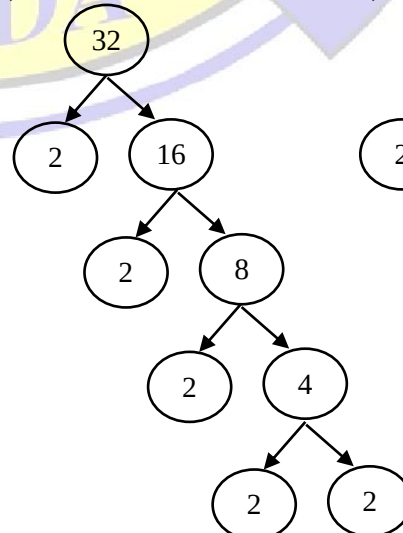
1) 21



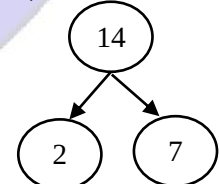
2) 50



3) 32



4) 14



F) Find the common factors of:

1) 12 and 14

Factors of 12:- 1, 2, 3, 4, 6, 12

Factors of 14:- 1, 2, 7, 14

Common factors of 12 and 14 are 1 and 2.

2) 10 and 20

Factors of 10:- 1, 2, 5, 10

Factors of 20:- 1, 2, 4, 5, 10, 20

Common factors of 12 and 14 are 1, 2, 5 and 10.

3) 6 and 9

Factors of 6:- 1, 2, 3, 6

Factors of 9:- 1, 3, 9

Common factors of 6 and 9 are 1 and 3.

4) 5 and 7

Factors of 5:- 1, 5

Factors of 7:- 1, 7

Common factor of 5 and 7 is 1.

G) A shopkeeper has to keep 36 boxes of books in equal piles. Write down at least 4 ways in which he can place the boxes, such that each pile has the same number of boxes.

Ans: 1st way: 1 book in each pile and 36 such piles = $1 \times 36 = 36$

2nd way: 2 books in each pile and 18 such piles = $2 \times 18 = 36$

3rd way: 3 books in each pile and 12 such piles = $3 \times 12 = 36$

4th way: 4 books in each pile and 9 such piles = $4 \times 9 = 36$

5th way: 6 books in each pile and 6 such piles = $6 \times 6 = 36$

Exercise 6.4

A) Fill in the blanks:

1) 1 is a unique number.

2) 2 is the only even prime number.

3) 9 is the smallest odd composite number.

4) If a number has only two factors then it is a prime number.

5) A composite number has more than two factors.

B) Circle the following:

1) Prime numbers:

16, (17), (19), 21, (23), 27, (29), (31), (37), 39, 45, (47), (53), 57

2) Composite numbers:

(48), (49), (32), 67, 103, (121), (125), (140)

C) Write all prime numbers between:

1) 35 and 45

Prime numbers between 35 and 45 are 37, 41 and 43.

2) 40 and 50

Prime numbers between 40 and 50 are 41, 43 and 47.

3) 60 and 70

Prime numbers between 60 and 70 are 61 and 67.

4) 75 and 85

Prime numbers between 75 and 85 are 79 and 83.

D) Write all composite numbers between:

1) 20 and 30

Composite numbers between 20 and 30 are 21, 22, 24, 25, 26, 27 and 28

2) 27 and 47

Composite numbers between 27 and 47 are 28, 30, 32, 33, 34, 35, 36, 38, 40, 42, 44, 45 and 46.

3) 41 and 50

Composite numbers between 41 and 50 are 42, 44, 45, 46, 48 and 49.

4) 64 and 84

Composite numbers between 64 and 84 are 65, 66, 68, 69, 70, 72, 74, 75, 76, 77, 78, 80, 81 and 82.

Exercise 6.5

Use the sieve to get all prime numbers from 1-60.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40

41 42 43 44 45 46 47 48 49 50

51 52 53 54 55 56 57 58 59 60

Prime numbers between 1 to 60 are 2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47, 53 and 59.

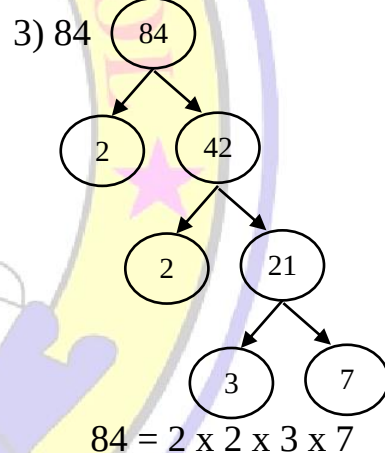
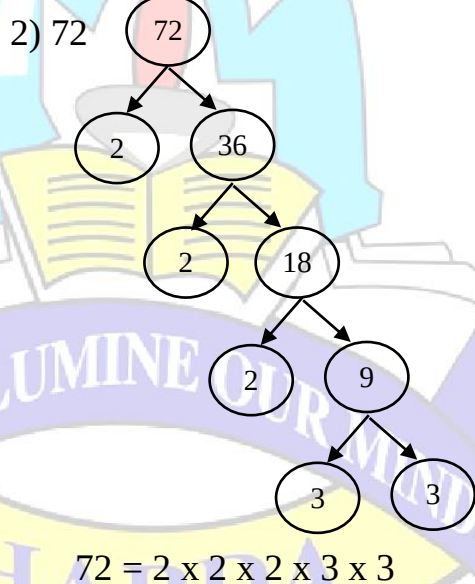
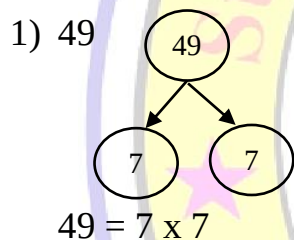
Exercise 6.6

Circle the numbers which are:

- 1) Divisible by 2. 7, (8), 9, (4), (12), 3, (6)
- 2) Divisible by 3. (18), 19, (72), (39), (45)
- 3) Divisible by 4. 54, (732), 961, (416), (18324)
- 4) Divisible by 5. (50), 147, (95), 86, (55), (40)
- 5) Divisible by 9. 757, 39, 451, (18), (63), (999), 439
- 6) Divisible by 10. (120), 22, 745, (1050), (980)

Exercise 6.7

Obtain prime factors by using factor tree method for each of the following:



Exercise 6.8

A) Obtain prime factors by using the division method for each of the following:

1) 98

$$\begin{array}{r|l} 2 & 98 \\ \hline 7 & 49 \\ \hline 7 & 7 \\ \hline & 1 \end{array}$$

98 = 2 x 7 x 7

2) 51

$$\begin{array}{r|l} 3 & 51 \\ \hline 17 & 17 \\ \hline & 1 \end{array}$$

51 = 3 x 17

3) 35

$$\begin{array}{r|l} 5 & 35 \\ \hline 7 & 7 \\ \hline & 1 \end{array}$$

35 = 5 x 7

4) 47

$$\begin{array}{r|l} 47 & 47 \\ \hline & 1 \end{array}$$

47 = 47 x 1

5) 16

$$\begin{array}{r|l} 2 & 16 \\ \hline 2 & 8 \\ \hline 2 & 4 \\ \hline 2 & 2 \\ \hline & 1 \end{array}$$

16 = 2 x 2 x 2 x 2

6) 65

$$\begin{array}{r|l} 5 & 65 \\ \hline 13 & 13 \\ \hline & 1 \end{array}$$

7) 20

$$\begin{array}{r|l} 2 & 20 \\ \hline 2 & 10 \\ \hline 5 & 5 \\ \hline & 1 \end{array}$$

8) 55

$$\begin{array}{r|l} 5 & 55 \\ \hline 11 & 11 \\ \hline & 1 \end{array}$$

9) 72

$$\begin{array}{r|l} 2 & 72 \\ \hline 2 & 36 \\ \hline 2 & 18 \\ \hline 3 & 9 \\ \hline 3 & 3 \\ \hline & 1 \end{array}$$

10) 90

$$\begin{array}{r|l} 2 & 90 \\ \hline 3 & 45 \\ \hline 3 & 15 \\ \hline 5 & 5 \\ \hline & 1 \end{array}$$

$65 = 5 \times 13$

$20 = 2 \times 2 \times 5$

$55 = 5 \times 11$

$72 = 2 \times 2 \times 2 \times 3 \times 3$

$90 = 2 \times 3 \times 3 \times 5$

B) Factorise the following:

1) 33

$$\begin{array}{r|l} 3 & 33 \\ \hline 11 & 11 \\ \hline & 1 \end{array}$$

2) 86

$$\begin{array}{r|l} 2 & 86 \\ \hline 43 & 43 \\ \hline & 1 \end{array}$$

3) 21

$$\begin{array}{r|l} 3 & 21 \\ \hline 7 & 7 \\ \hline & 1 \end{array}$$

4) 74

$$\begin{array}{r|l} 2 & 74 \\ \hline 37 & 37 \\ \hline & 1 \end{array}$$

5) 56

$$\begin{array}{r|l} 2 & 56 \\ \hline 2 & 28 \\ \hline 2 & 14 \\ \hline 7 & 7 \\ \hline & 1 \end{array}$$

$33 = 3 \times 11$

$86 = 2 \times 43$

$21 = 3 \times 7$

$74 = 2 \times 37$

$56 = 2 \times 2 \times 2 \times 7$

