

Exercises

Let's Recall

A) Which of the following are even numbers?

14, 27, 37, 38, 44, 48, 68, 77, 88, 91, 95

B) List all the prime numbers between.

1) 10 and 30 – 11, 13, 17, 19, 23, 29

2) 36 and 60 - 37, 41, 43, 47, 53, 59

3) 75 and 99 - 79, 83, 89, 97

4) 18 and 81 - 19, 23, 29, 31, 37, 41, 43, 47, 53, 59, 61, 67, 71, 73, 79

C) List 5 consecutive composite numbers less than 100.

Ans. 92, 93, 94, 95, 96

D) Which of the following are co-prime numbers?

Ans. 2) 9, 16

3) 32, 49

Factors of 9 - 1, 3, 9

Factors of 32 – 1, 2, 4, 8, 16, 32

Factors of 16 – 1, 2, 4, 8, 16

Factors of 49 - 1, 7, 49

Common factor = 1

Common factor = 1

So, 9, 16 are co-prime numbers.

So, 32, 49 are co-prime numbers.

Exercise 4.1

A) Write 4 multiples for each of the following.

1) 31 - 31, 62, 93, 124

2) 61 - 61, 122, 183, 244

3) 22 - 22, 44, 66, 88

4) 170 - 170, 340, 510, 680

5) 320 - 320, 640, 960, 1280

6)

B) Write down 3 factors for each of the following (except 1 and the number itself)

1) 124

2) 750

3) 1834

4) 256

5) 100

Sol.  $2 \times 62$

Sol.  $2 \times 375$

Sol.  $2 \times 917$

Sol.  $2 \times 128$

Sol.  $2 \times 50$

$4 \times 64$

$3 \times 250$

$7 \times 262$

$4 \times 64$

$4 \times 25$

Factors=2, 4, 31, 62

Factors=2, 3, 250, 375

Factors=2, 7, 262, 917

Factors=2, 4, 64, 128

Factors= 2, 4, 25, 50

C) Is first number a factor of second number?

1) 7, 91 - yes, 7 is a factor of 91

2) 12, 156 - yes, 12 is a factor of 156

3) 18, 608 - No, 18 is not a factor of 608

D) Solve.

1) Find all 2-digit multiples of 9.

Ans. 18, 27, 36, 45, 54, 63, 72, 81, 90, 99

2) Find all the factors of 24.

Ans.  $1 \times 24$ ,  $3 \times 8$  Factors of 24 = 1, 2, 3, 4, 6, 8, 12, 24

$2 \times 12$ ,  $4 \times 6$

3) Write 3 common factors of 150 & 200.

Sol. 150

200

$1 \times 150$

$1 \times 200$

Factors of 150 = 1, 2, 3, 5, 6, 10, 15, 25, 30, 50, 75, 150

$2 \times 75$

$2 \times 100$

Factors of 200 = 1, 2, 4, 5, 8, 10, 20, 25, 40, 50, 100, 200

$3 \times 50$

$4 \times 50$

3 Common factors are 1, 2, 5

$5 \times 30$

$5 \times 40$

$6 \times 25$

$8 \times 25$

$10 \times 15$

$10 \times 20$

4) Write 3 common factors of 27 & 52.

Sol. 27

52

$1 \times 27$

$1 \times 52$

Factors of 27 = 1, 3, 9, 27

$3 \times 9$

$2 \times 26$

Factors of 52 = 1, 2, 4, 13, 26, 52

$4 \times 13$

Common factors = 1

#### Exercise 4.2

A) Solve.

1) Write all even numbers between 190 and 200

Ans. 192, 194, 196 and 198

2) Write all odd numbers from 240 to 250.

Ans. 241, 243, 245, 247 and 249

3) Write all prime numbers between 60 and 80.

Ans. 61, 67, 71, 73 and 79

B) Circle the prime numbers.

1) 107

2) 73

3) 46

4) 31

5) 12

6) 7

7) 32

C) Which of the following pairs of numbers are co-prime numbers?

1) 81 and 256

$81 = \underline{1}, 3, 9, 27, 81$

$256 = \underline{1}, 2, 4, 8, 32, 64, 128, 256$

Common factor is only 1

So, 81 and 256 are co-prime numbers.

2) 46 and 87

$46 = \underline{1}, 2, 23, 46$

$87 = \underline{1}, 3, 29, 87$

Common factor is only 1

So, 46 and 87 are co-prime numbers.

3) 19 and 21

$19 = \underline{1}, 19$

$21 = \underline{1}, 3, 7, 21$

Common factor is only 1

So, 19 and 21 are co-prime numbers.

4) 7 and 6

$7 = \textcircled{1}, 7$

$6 = \textcircled{1}, 2, 3, 6$

Common factor is only 1

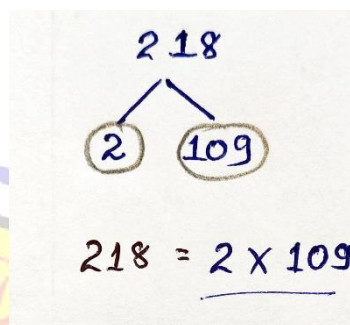
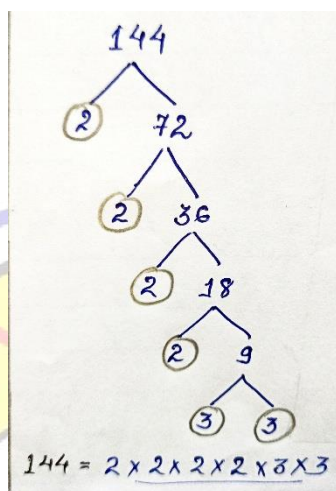
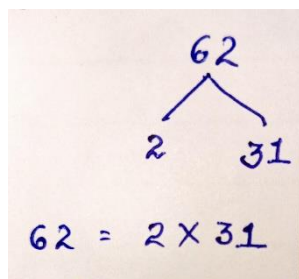
So, 7 and 6 are co-prime numbers.

D) Express as the product of prime factors. (Prime factorisation)

1) 62

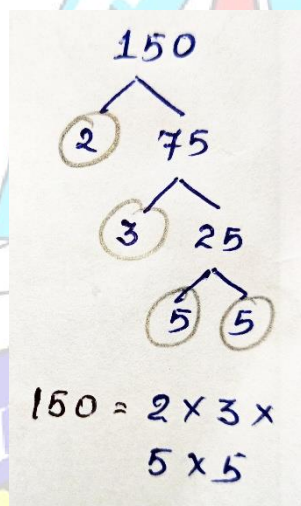
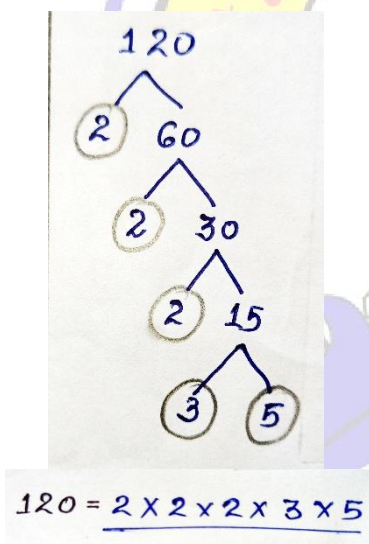
2) 144

3) 218



4.) 120

5) 150



### Exercise 4.3

A) Use the divisibility rules learnt and check the divisibility of the following numbers.

1) 2220976 by 11

Ans. O E O E O E O

2 2 2 0 9 7 6

Sum of the digits in odd places =  $6+9+2+2 = 19$

Sum of the digits in even places =  $7+0+2 = 9$

Difference of sums =  $19-9$

= 10

10 is not divisible by 11. Hence 2220976 is also not divisible by 11.

2) 8312 by 4

Ans. Last two digit that is 12

12 is divisible by 4. Hence 8312 is also divisible by 4.

3) 8374 by 2

Ans. Check ones place digit that is 4

So, 8374 is also divisible by 2.

4) 3879 by 9

Ans.  $3+8+7+9 = 27$ , as 27 is divisible by 9.

So, 3879 is also divisible by 9.

5) 9320 by 5

Ans. Check ones place digit if it is 0 or 5

9320 is divisible by 5 as its ones place digit is 0.

6) 66618 by 6

➤ 66618 is divisible by 2 as its last digit is 8 is an even number.

➤  $6+6+6+1+8 = 27$  is divisible by 3 so, 66618 is also divisible by 3.

So, 66618 is divisible by 2 and 3, Therefore 66618 is divisible by 6.

7) 8395 by 10

Ans. Check ones place digit if it is 0

8395 is not divisible by 10 as its ones place digit is 5.

8) 32754 by 3

Ans.  $3+2+7+5+4 = 21$  which is divisible by 3.

So, 32754 is also divisible by 3.

9) 574 by 7

Ans. Take last two digits and add twice of remaining digits

$74 + (5 \times 2) = 74 + 10 = 84$  is divisible by 7

So, 574 is also divisible by 7.

10) 86 by 7

Ans. Multiply tens place digit by 3 and add its product to digit in ones place.

$(8 \times 3) + 6 = 24 + 6 = 30$  as it is not divisible by 7

So, 86 is also not divisible by 7

11) 94808 by 8

Ans. Take last 3 digits of a number that is 808

This 808 is divisible by 8

So, 94808 is also divisible by 8

12) 17250984 by 8

Ans. Take last 3 digits that is 984

This 984 is divisible by 8

So, 17250984 is divisible by 8.