Exercise 8 (A)

1. Write all the factors of:

i) 15

Ans 15

1×15

3×5

Factors of 15 = 1, 3, 5, 15

ii) 55

Ans 55

1×55

5×11

Factors of 55 = 1, 5, 11, 55

iii) 48

Ans 48

1×48

2×24

3×16

4×12

6×8

Factors of 48 = 1, 2, 3, 4, 6, 8, 12, 16, 24, 48

iv) 36

Ans⇒ 36

1 x 36

2 x 18

3 x 12

4 x 9

6 x 6

Factors of 36 = 1, 2, 3, 4, 6, 9, 12, 18, 36

iv) 84

Ans⇒ 84

1 x 84

2 x 42

3 x 28

4 x 21

6 x 14

7 x 12

Factors of 84 = 1, 2, 3, 4, 6, 7, 12, 14, 21, 28, 42, 84

2. Write all prime numbers:

i) less than 25

Ans⇒ less than 25 prime numbers are:-

2, 3, 5, 7, 11, 13, 17, 19, 23

ii) between 15 and 35

Ans⇒ between 15 and 35 prime numbers are:-

17, 19, 23, 29, 31

iii) between 8 and 76

Ans⇒ between 8 and 76 prime numbers are:-

11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47, 53, 59, 61, 67, 71, 73.

3. Write the prime numbers from:

i) 5 to 45

Ans⇒ 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43

ii) 2 to 32

Ans⇒ 2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31

iii) 8 to 48

Ans⇒ 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47

iv) 9 to 59

Ans⇒ 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47, 53, 59

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4. Write the prime factors of:

i) 16

Ans⇒

2	16
2	8
2	4
	2

Prime factorization of 16 = 2×2×2×2

Prime factors of 16 = 2

ii) 27

Ans⇒

3	27
3	9
	3

Prime factorization of 27 = 3×3×3

Prime factors of 27 = 3

iii) 35

Ans⇒ 5|35
7

Prime factorization of 35 = 5×7

Prime factors of 35 = 5, 7

iv) 49

Ans⇒ 7|49
7

Prime factorization of 49 = 7×7

Prime factor ~~of 49~~ of 49 = 7

5. If P_n means prime factors of n, find:

i) ~~$P_8 P_6$~~

~~Ans⇒ $P_6 = 16$~~

Ans⇒ P_6

2|6
3

Prime factorization of 6 = 2×3

Prime factors of 6 = 2, 3

ii) P_{24}

Ans⇒ P_{24}

2|24
2|12
2|6
3

Prime factorization of 24 = 2×2×2×3

Prime factors of 24 = 2, 3

iii) P_{50}

Ans⇒ P_{50}

$$\begin{array}{r|l} 2 & 50 \\ 5 & 25 \\ \hline & 5 \end{array}$$

Prime factorization of $50 = 2 \times 5 \times 5$

Prime factors of $50 = 2, 5$

iv) P_{42}

Ans⇒ P_{42}

$$\begin{array}{r|l} 2 & 42 \\ 3 & 21 \\ \hline & 7 \end{array}$$

Prime factorization of $42 = 2 \times 3 \times 7$

Prime factors of $42 = 2, 3, 7$

What are co-primes?

Ans⇒ Co-primes are numbers whose hcf is 1.