

HCF and LCM

EXERCISE 8(A)

Question 1.

Write all the factors of :

- (i) 15
- (ii) 55
- (iii) 48
- (iv) 36
- (v) 84

Solution:

- (i) Factors of 15 = $F_{15} = 1, 3, 5$ and 15
- (ii) Factors of 55 = $F_{55} = 1, 5, 11$ and 55
- (iii) Factors of 48 = $F_{48} = 1, 2, 3, 4, 6, 8, 12, 16, 24$ and 48
- (iv) Factors of 36 = $F_{36} = 1, 2, 3, 4, 6, 9, 12, 18$ and 36.
- (v) Factors of 84 = $F_{84} = 1, 2, 3, 4, 6, 7, 12, 14, 21, 28, 42$ and 84.

Question 2.

Write all prime numbers :

- (i) less than 25
- (ii) between 15 and 35
- (iii) between 8 and 76

Solution:

- (i) 2, 3, 5, 7, 11, 13, 17, 19 and 23
- (ii) 17, 19, 23, 29 and 31
- (iii) 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47, 53, 59, 61, 67, 71 and 73.

Question 3.

Write the prime-numbers from :

- (i) 5 to 45
- (ii) 2 to 32
- (iii) 8 to 48
- (iv) 9 to 59

Solution:

- (i) 7, 11, 13, 17, 19, 23, 29, 31, 37, 41 and 43.
- (ii) 3, 5, 7, 11, 13, 17, 19, 23 29 and 31.
- (iii) 11, 13, 17, 19, 23, 29, 31, 37, 41, 43 and 47.
- (iv) 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47 and 53.

Question 4.

Write the prime factors of:

- (i) 16
- (ii) 27
- (iii) 35
- (iv) 49

Solution:

- (i) Prime factors of 16 = 2

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

- (ii) Prime factors of 27 = 3

$$\begin{array}{r|l} 3 & 27 \\ \hline 3 & 9 \\ \hline 3 & 3 \\ \hline & 1 \end{array}$$

- (iii) Prime factors of 35 = 5, 7

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

- (iv) Prime factors of 49 = 7

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

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Question 5.

If P_n means prime factors of n , find:

(i) p_6

(ii) P_{24}

(iii) p_{50}

(iv) P_{42}

Solution:

(i) $F_6 = 1, 2, 3, 6$

P.F.₆ (Prime factor of 6) = 2 and 3.

(ii) $F_{24} = 1, 2, 3, 4, 6, 8, 12, 24$

P.F.₂₄ = 2 and 3.

(iii) $F_{50} = 2, 5, 5$

P.F.₅₀ = 2 and 5.

(iv) $F_{42} = 1, 2, 3, 6, 7, 14, 21, 42$

P.F.₄₂ = 2, 3 and 7.



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