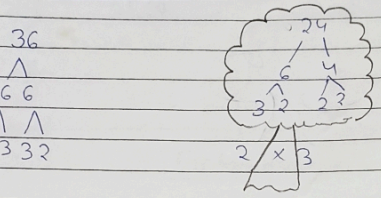
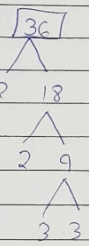
C.W

L-8 Factor tree LCM HCF



Using Factor
Find the prime factor of 36



Using Repeated Division
Find the prime factor of 36

2	36
2	18
3	9
	3

$36 = 2 \times 2 \times 3 \times 3$

Factor - When two or more natural number are multiplied together is called an product each number multiplied is called factors

12 → 1×12 Factor 12 are - 1, 2, 3, 4, 6, 12
→ 3×4
→ 2×6

Prime number - A natural number which has only two facts
2 → 1×2
3 → 1×3 (two factors one and the number itself)
5 → 1×5
7 → 1×7

Exercise 8A

1. Write all factors of - 15, 55, 48, 36, 84

3 | 15	5 | 55	2 | 48	2 | 36	2 | 84
5 | 5	11 | 11	2 | 24	2 | 18	2 | 42
1	1	2 | 12	3 | 9	3 | 21
		2 | 6	3	7
		3		

1. Factor of - $15 = 3 \times 5 \times 1$
   $= 15 = 1, 3, 5,$ and 15

2. Factor of $= 5 \times 11 \times 1 = 55$
   $= 55 = 1, 5, 11, 1$ and 55

3. Factor of $= 2 \times 2 \times 2 \times 2 \times 3 = 48$
   $48 = 1, 2, 2, 2, 2, 3$ and $48 = 1, 2, 3, 4, 6, 8, 12, 16, 24$

4. Factor of $= 2 \times 2 \times 3 \times 3 = 36$ $36 = 1, 2, 3, 4, 6$ and $9 = 12, 18, 36$

5. Factor of $= 1 \times 2 \times 2 \times 3 \times 7 = 84$ $84 = 1, 2, 3, 7 = 84$
   $1, 2, 3, 4, 6, 7, 12, 14, 21, 28, 42$ and 84.

(2i) Write all the prime number

(i) less than 25 = 2, 3, 5, 7, 11, 13, 17, 19, 23

(ii) between 15 and 35 = 17, 19, 23, 29, 31

(iii) between 8 and 76 = 11, 13, 17, 19, 23, 29, 37, 41, 43, 47
53, 59, 61, 67, 71, 73

3. i. 5 to 45 = 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43.
2 to 32 = 2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31
8 to 48 = 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47
9 to 59 = 11, 13, 17, 19, 23, 29, 31, 37, 41, 43
47, 53, 59.

8A

Composite number : A natural number which has more then two factors.

factor of 4 - 1, 2, 4
9 - 1, 3, 9
10 - 1, 2, 5, 10

4. Write the prime factor

1. 16 - 2 | 16 — Prime factor is = 2
2 | 8
2 | 4
2

2. 27 - 3 | 27 — Prime factor is = 3
3 | 9
3

3. 35 - 5 | 35 — Prime factor is = 5, 7
7 | 7
1

4. 49 - 7 | 49 — Prime factor is = 7
7 | 7
1

5 If Pn mean prime factors of n. find:

(1). P_6 = n is 2 and 3 P_6 = 1, 2, 3, 6
P_{24} = n is 2 and 3 P_{24} = 1, 2, 3, 4, 6, 8, 12, 24
P_{50} = n is 2 and 5 P_{50} = 1, 2, 5, 10, 25, 50
P_{42} = n is 2, 3 and 7 P_{42} = 1, 2, 3, 6, 7, 14, 21, 42
P_6 = n is 2 and 3
Prime factor of -24 is 2 and 3
Prime factor of -50 is 2 and 5
Prime factor of -42 is 2, 3 and 7