C.W

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2. Find the LCM of the given numbers by prime factorization method.

a) 16 and 48

2 | 16	2 | 48
2 | 8	2 | 24
2 | 4	2 | 12
2	2 | 6
	3

$16 = 2 \times 2 \times 2 \times 2$

$48 = 2 \times 2 \times 2 \times 2 \times 3$

$LCM = 2 \times 2 \times 2 \times 2 \times 3 = 48$

b) 8, 12 and 16

2 | 8	2 | 12	2 | 16
2 | 4	2 | 6	2 | 8
2	3	2 | 4
		2

$8 = 2 \times 2 \times 2$

$16 = 2 \times 2 \times 2 \times 2$

$12 = 2 \times 2 \times 3$

$LCM = 2 \times 2 \times 2 \times 2 \times 3 = 48$

c) 20 and 25

2|20 5|25
2|10 5
5

20 = 2 x 2 x 5
25 = 5 x 5

LCM = 2 x 2 x 5 x 5 = 100

d) 40 and 50

2|40 2|50
2|20 5|25
2|10 5
5

~~x x x x~~ 40 = 2 x 2 x 2 x 5
50 = 2 x 5 x 5

LCM = 2 x 2 x 2 x 5 x 5 = 200

e) 56 and 64

2	56
2	28
2	14
	7

2	64
2	32
2	16
2	8
2	4
	2

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

$64 = 2 \times 2 \times 2 \times 2 \times 2 \times 2$

$LCM = 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 7 = 448$

f) ~~Broom~~ 96 and 144

2	96
2	48
2	24
2	12
2	6
	3

2	144
2	72
2	36
2	18
3	9
	3

$96 = 2 \times 2 \times 2 \times 2 \times 2 \times 3$

$144 = 2 \times 2 \times 2 \times 2 \times 3 \times 3$

$LCM = 2 \times 2 \times 2 \times 2 \times 2 \times 3 \times 3 = 288$

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g) 36 and 42

2 | 36	2 | 42
2 | 18	3 | 21
3 | 9	7 | 7
3	1

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

$42 = 2 \times 3 \times 7$

$LCM = 2 \times 2 \times 3 \times 3 \times 7 = 108$

h) 21 and 36

3 | 21	2 | 36
7	2 | 18
	3 | 9
	3

$21 = 7 \times 3$

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

$LCM = 7 \times 2 \times 2 \times 3 \times 3 = 252$

i) 15 and 45

3 | 15	3 | 45
5	3 | 15
	5

$15 = (3) \times (5)$

$45 = (3) \times 3 \times (5)$

LCM = $3 \times 3 \times 5 = 45$

ii) 10, 20 and 30

2 | 10	2 | 20	2 | 30
5	2 | 10	3 | 15
	5	5

$10 = (2) \times (5)$

$20 = (2) \times 2 \times (5)$

$30 = (2) \times 3 \times (5)$

LCM = $2 \times 2 \times 3 \times 5 = 60$