cw
3.9.21

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② Find the LCM of the given numbers by prim factorisation method.

ⓐ 16 and 48

2	16
2	8
2	4
	2

2	48
2	24
2	12
2	6
	3

$16 = (2) \times (2) \times (2) \times (2)$
$48 = (2) \times (2) \times (2) \times (2) \times 3$

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

ⓑ 8, 12 and 16

2	8
2	4
	2

2	12
2	6
	3

2	16
2	8
2	4
	2

$8 = (2) \times (2) \times 2$
$12 = (2) \times (2) \times 3$
$16 = (2) \times (2) \times 2 \times 2$
LCM $= 2 \times 2 \times 2 \times 3 \times 2 \times 2 = 96$

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(c) 20 and 25

5	20
2	4
	2

5	25
5	5
	1

$20 = 5 \times 2 \times 2$
$25 = 5 \times 5 \times 1$

LCM $= 5 \times 2 \times 2 \times 5 \times 1 = 100$

(d) 40 and 50

2	40
5	20
2	4
	2

2	50
5	25
	5

$40 = 2 \times 5 \times 2 \times 2$
$50 = 2 \times 5 \times 5$

LCM $= 2 \times 5 \times 2 \times 2 \times 5 = 200$

(e) 56 and 64

2	56
2	28
2	14
	7

2	64
2	32
2	16
2	8
2	4
	2

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

$64 = 2 \times 2 \times 3 \times 2 \times 2 \times 2$

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

(f) 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

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

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

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

(g) 36 and 42

2	36
2	18
3	9
	3

2	42
3	21
	7

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

$42 = 2 \times 3 \times 7$

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

(h) 21 and 36

3	21
	7

3	36
2	12
2	6
	3

$21 = 3 \times 7$

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

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

(i) 15 and 45

3	15
	5

3	45
5	15
	3

$15 = 3 \times 5$

$45 = 3 \times 5 \times 3$

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

(j) 10, 20 and 30

2	10
	5

2	20
5	10
	2

3	30
5	15
	3

$10 = 2 \times 5$

$20 = 2 \times 5 \times 2$

$30 = 2 \times 5 \times 3$

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