Exercise 1C

1. Using the common multiple method, find the LCM of of the following:

i) 8, 12 and 24

A- 8 - 8, 16, (24), 32
12 - 12, (24), 36, 48, 60
24 - (24), 48, 72, 96

Common multiple - 24
LCM - 24

ii) 10, 15 and 20

10 - 10, 20, 30, 40, 50, (60)
15 - 15, 30, 45, (60)
20 - 20, 40, (60), 80

Common multiple - 60
LCM - 60

iii) 3, 6, 9, 12

3 - 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 36
6 - 6, 12, 18, 24, 30, 36
9 - 9, 18, 27, 36
12 - 12, 24, 36, 48

Common multiples - 36
LCM - 36

Idea 28/16

2. Find the LCM of each of the following groups of numbers using prime factor method and common division method:

1. Prime factori method

i) 18, 24, 96

$18 - 2\times3\times3 = 2\times3^2$
$24 - 2\times2\times2\times3 = 2^3\times3$
$96 - 2\times2\times2\times2\times2\times3 = 2^5\times3$

$LCM = 2^5\times3^2$

$= 288$

Division method

2	18, 24, 96
2	9, 12, 48
2	9, 6, 24
2	9, 3, 12
2	9, 3, 6
3	9, 3, 3
	3, 1, 1

$= 2\times2\times2\times2\times2\times3\times3$
$LCM = 288$

ii) 100, 150, 200

$100 = 2\times2\times5\times5 = 2^2\times5^2$
$150 = 2\times3\times5\times5 = 2\times3\times5^2$
$200 = 2\times2\times2\times5\times5 = 2^3\times5^2$

$LCM = 2^3\times3\times5^2$

$= 600$

2	100, 150, 200
2	50, 75, 100
2	25, 75, 50
5	25, 15, 25
3	5, 15, 5
5	5, 5, 5
	1, 1, 1

$2\times2\times2\times5\times3\times5\times5\times5$
$LCM = 600$

iii) 14, 21, 98

$14 - 2\times7 = 2\times7$
$21 - 3\times7 = 3\times7$
$98 - 2\times7\times7 = 2\times7^2$
$LCM = 2\times3\times7^2$
$= 294$

2	14, 21, 98
7	7, 21, 49
7	1, 3, 7
	1, 3, 1

$LCM = 7\times7\times2\times3$
$= 294$

HW
28/6

Prime factors method	division method
(iv) 22, 121, 33	11 | 22, 121, 33 2, 11, 3
$22 = 11 \times 2 = 11 \times 2$ $121 = 11 \times 11 = 11^2 \times (1)$ $33 = 11 \times 3 = 11 \times 3$	$11 \times 2 \times 11 \times 3$
LCM $= 2 \times 3 \times 11^2$ $= 726$	$= 726$
(v) 34, 85, 51	2 | 34, 85, 51 3 | 17, 85, 51 5 | 17, 85, 17 17 | 17, 17, 17 1, 1, 1
$34 = 2 \times 17$ $85 = 5 \times 17$ $51 = 3 \times 17$	
LCM $= 2 \times 5 \times 3 \times 17$ $= 510$	Lcm $= 2 \times 3 \times 5 \times 17$ $= 510$

Punam Roy.

Parent's signature