ii) Ans i) 15th figure has = 3×15+4
= 49 matches

2) 40th figure has = 3×40+4
= 124 matches

iii) Ans It is clear that each time the figure (n) is increased by 4, the number of matches (s) are increased by 3.

4) i) Ans

ii) Ans

N	1	2	3	4	5
L	2	4	6	8	10

Hence, the table is given above.

iii) Ans Hence, the value of L is
L = 2n

iv) Ans 1) Ans Number of matchsticks in 12th figure
= 2×12 = 24

2) Ans Number of matchsticks in 20th figure = 2×20
= 40

HW

5) a) i) Ans

N	1	2	3	4
F	5	8	11	14

F = 3n+2

ii)

iii) Ans 16th = 16×3+2 = 48+2 = 50
30th = 30×3+2 = 90+2 = 92

b) i) A)

N	1	2	3		
F	5	9	13		

$F = 4n + 1$

ii) A) $16^{th} = 16 \times 4 + 1 = 64 + 1 = 65$, $30^{th} = 30 \times 4 + 1 = 120 + 1$

c) i) A)

1	2	3			
8	13	18			

+5 +5

$F = 5n + 3$

ii) $16^{th} = 5 \times 16 + 3 = 83$

$30^{th} = 5 \times 30 + 3 = 150 + 3 = 153$

d) i) A)

N	1	2	3
F	6	11	16

+5 +5

$F = 5n + 1$

ii) A) $16^{th} = 81$ matchsticks

A) $30^{th} = 151$ matchsticks

e) i) A)

N	1	2	3
F	5	9	13

+4 +4

$4n + 1$

ii) A) 65 and 121

f) i) A)

N	1	2	3	4
F	2	6	10	14

+4 +4 +4

$4n - 2$

ii) A) 62 and 118