CW
06/05/21

The natural numbers and whole numbers

Patterns.

1.

i) $1 \times 9 + 1 = 10$

$12 \times 9 + 2 = 110$

$123 \times 9 + 3 = 1110$

A:→ $1234 \times 9 + 4 = 11110$

$12345 \times 9 + 5 = 111110$

$123456 \times 9 + 6 = 1111110$

ii) $9 \times 9 + 7 = 88$

$98 \times 9 + 6 = 888$

$987 \times 9 + 5 = 8888$

A:→ $9876 \times 9 + 4 = 88888$

$98765 \times 9 + 3 = 888888$

$987654 \times 9 + 2 = 8888888$

iii) $1 \times 8 + 1 = 9$

$12 \times 8 + 2 = 98$

$123 \times 8 + 3 = 987$

A:→ $1234 \times 8 + 4 = 9876$

$12345 \times 8 + 5 = 98765$

$123456 \times 8 + 6 = 987654$

iv) $111 \div 3 = 37$

$222 \div 6 = 37$

$333 \div 9 = 37$

A:→ $444 \div 12 = 37$

$555 \div 15 = 37$

$666 \div 18 = 37$

2.

i)

6	7	2
1	5	9
8	3	4

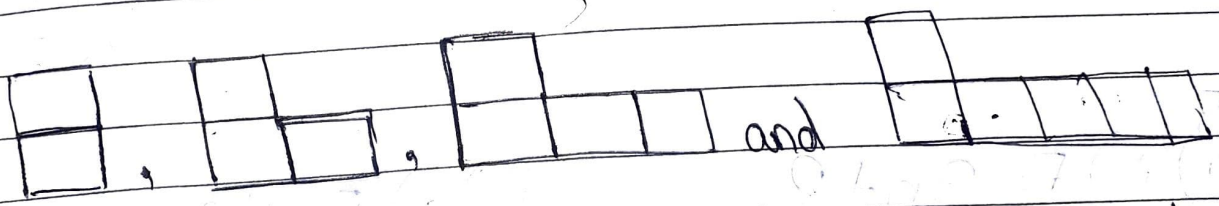
ii)

4	9	8
11	7	3
6	5	10

iii)

16	2	12
6	10	14
8	18	4

3.



i) If n denotes the number of figures and S denotes the number of matchsticks, find S in term of n.

A:) $S = 3n + 4$

ii) 1) 15^{th} figure

A:) 49

2) 40^{th} figure

A:) 124

iii) Write a discreption of the pattern in words.

A:) Nuber of matchsticks (S) is equal to four more than three times the number of the figure

4.

i) 

ii)

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

iii) Hence the value of L is = $L = 2n$

iv) 1) 12th figure

A:) Number of Matchsticks in 12th figure

$= 2 \times 12 = 24$

2) 20th figure

A:) Number of Matchsticks in 20th figure =

$= 2 \times$

5.

a) i) $F = 3n + 2$

ii) 50 and 92

b) i) $F = 4n + 1$

ii) 65 and 121

c) i) $F = 5n + 3$

ii) 83 and 53

d) i) $F = 5n + 1$

ii) 81 and 151

e) i) $F = 4n + 1$

ii) 65 and 121

f) i) $F = 4n - 2$

ii) 62 and 118