

$$\begin{array}{cccccc}
 (0) & (1) & (2) & (3) & (4) & \\
 0 & 1 & 5 & 12 & 22 & 2a=3 \\
 \hline
 & +1 & +4 & +7 & +10 & \\
 \hline
 & & +3 & +3 & +3 &
 \end{array}$$

$$a = \frac{3}{7} \quad b = -\frac{1}{7} \quad c = 0$$

$$ax^2 + bx + c = 0$$

$$\frac{3}{7}x^2 - \frac{1}{7}x + 0 = 0$$

$$\left(\frac{3}{7} \times 100\right) + \left(-\frac{1}{7} \times 10\right) + 0 = 145$$

$$\frac{300}{100} - \frac{10}{100} = 145$$

$$0, 1, 3, \dots$$

$$\frac{0}{+1} \quad \frac{1}{+2}$$

$$\frac{n \times (n-1)}{2} = 55$$

$$\text{جملہ عمومی} = \frac{n(n-1)}{2}$$

$$n \times (n-1) = 110$$

$$n = 11$$

$$\text{سلسلہ} = 5, 9, 13$$

$$\frac{5}{+4} \quad \frac{9}{+4}$$

$$\rightarrow 4n+1$$

$$(4 \times 11) + 1 = 45$$

$$\text{سلسلہ} = 5, 13, 21$$

$$\frac{5}{+8} \quad \frac{13}{+8}$$

$$\rightarrow 8n-3$$

$$(8 \times 11) - 3 = 85$$

$$-1, \frac{1}{2}, -\frac{1}{3}, \frac{1}{4}, \dots$$

کوٹھڑی بڑھتی

$$\frac{1}{2} - (-1) = \frac{3}{2}$$

$$b_n = -27 - 21 = -48$$

$$-2K + 22 = -48$$

$$-2K = -70$$

$$2K = 70$$

$$K = \frac{70}{2} = 35$$

$$a_1 = a_1 + 9d$$

$$a_5 = a_1 + 4d$$

$$2d = 12$$

$$d = 6$$

$$a_4 = a_1 + 3d$$

$$a_1 = a_1$$

$$3d \rightarrow 3 \times 6 = 18$$

4

$$2an + b = 5$$

$$5an + b = 12$$

$$2an = 1$$

$$an = 1$$

$$b = -1$$

$$(1) (1 \times 6) - 1 = 5$$

$$(2) (2 \times 6) - 1 = 11$$

$$1bn + c = 5$$

$$2bn + c = 11$$

$$bn = 1$$

$$c = -6$$

$$\rightarrow 1n - 6$$

5

$$\frac{2}{2}, \frac{4}{4}, \frac{10}{9}, \frac{16}{11} \rightarrow \frac{2}{2}, \frac{4}{4}, \frac{10}{9}, \frac{16}{11} \rightarrow \frac{2n-2}{2n+3}$$

$$\frac{2n-2}{2n+3} < \frac{2}{2}$$

$$2n-2 < 2n+3$$

$$2n < 12$$

$$n < \frac{12}{2} = 6 \rightarrow \text{حداکثر } 5$$

1

$$\begin{array}{cccccc} (0) & (1) & (2) & (3) & (4) & (5) \\ 0 & 6 & 9 & 9 & 9 & 0 \\ \hline & +2 & +3 & +0 & -2 & -4 \\ \hline & -2 & -2 & +2 & -2 & \end{array}$$

$$2a = -2$$

$$a = -1$$

$$b = \frac{12}{2} \quad c = 0$$

$$-\frac{2}{2}x^2 + \frac{12}{2}x + 0$$

9

$$A = -\frac{2}{2}$$

$$B = \frac{12}{2}$$

$$\rightarrow \left(2 \times -\frac{2}{2} \right) + \left(2 \times \frac{12}{2} \right) = \frac{24}{2} = 12$$

$$\begin{array}{cccc} (0) & (1) & (2) & (3) \\ -4 & -4 & -4 & 0 \\ \hline & +2 & +2 & \\ \hline & 0 & 0 & \end{array}$$

$$2a = 2$$

$$a = 1$$

$$b = -1$$

$$c = -4$$

$$1x^2 + (-1)x + (-4)$$

$$2a + b = 21$$

$$5a + b = 21$$

$$2a = 1$$

$$a = 2$$

$$b = 21$$

$$2n + 21$$

10

$$1n^2 + (-1)n - 4 = 2n + 21$$

$$n^2 - 4n = 27$$

$$n(n-4) = 27 \rightarrow n = 9$$