

$$t_n = 5, 9, 13, 17, \dots$$

$$t_n = 4n + 1 \quad (\text{الف})$$

$$t_{10} = 4 \times 10 + 1 = 41 \quad (\text{ب}) \text{ جمله دهم؟}$$

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$$t_n = 4, 10, 16, 22, \dots$$

$$S_{10} = \frac{10}{2} (4 + a_{10}^{(2)}) = ? \quad (\text{الف}) \text{ مجموع 10 جمله اول؟}$$

$$S_{10} = 120$$

$$t_n = 4n + 2, \quad t_{10} = 4 \times 10 + 2 = 42$$

$$(\text{ب}) \text{ مجموع 4 جمله هفتم؟}$$

$$t_9 + t_{10} + t_{11} + t_{12} = 118, 122, 126, 130$$

$$= 480 \quad \text{مجموع}$$

$$t_{19} = 4 \times 19 + 2 = 78$$

$$a_{25} - a_{23} = ?$$

$$\text{اعداد } 1 + \sqrt{3}, 2, 3 - \sqrt{3}, \dots$$

$$a \times 25d - a - 23d = 2d = 2 \times 1 - \sqrt{3} = 2 - \sqrt{3}$$

$$d = 3 - \sqrt{3} - 2 = 1 - \sqrt{3}$$

$$\rightarrow 2 - \sqrt{3}$$

3

$$a_n = 5^{2n}, 3 \times 5^{2n}, 5^y$$

$$3 \times 5^{2n} = 5^{2n} = 5^{2n} (3 - 1) = 2 \times 5^{2n}$$

$$b_n = x, 2, y \rightarrow x + y = 4, y = 4 - x$$

$$5^y - (3 \times 5^{2n}) = 2 \times 5^{2n} \rightarrow 5x \cdot 5^{2n} = 5^y$$

$$x = 1, y = 3 \rightarrow xy = 3$$

$$5^{2n+1} = 5^y$$

$$2n+1 = y \quad \boxed{x=1}$$

$$2n+1 = 4-x \rightarrow 2n=3$$

4

$$2x-1, 2x-1, 4x, \dots$$

$$a_4 = ?$$

$$n! >: -3, 0, 3, \dots$$

$$\frac{4x + 2x - 1}{2} = x - 1$$

$$2x - 1 = 1x - 1$$

$$x = 1, x = \frac{1}{2}$$

$$a_4 = a + 3d = -3 + \frac{3 \times 3}{2} = \frac{3}{2}$$

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$$a_n = r, \Delta, v, \dots \rightarrow r_{n+1}$$

$$d = r \times r = r$$

$$b_n = r, \Delta, \Delta, \dots \rightarrow r_{n-1}$$

$$\Delta, 11, 1v, r, r, \dots \rightarrow r_{n-1}$$

$$r \times r + 1 = r$$

$$r \times r - 1 = \Delta$$

$$r_{n-1} = r$$

$$r_n = r$$

$$\int n = v$$

$$a_1 + a_r + a_v = r$$

$$a-d + a + a+d \rightarrow ra = r \quad a_r = v$$

$$a_1 + a_r + a_\Delta = 10\Delta$$

$$r-d + r+d + r+r = r + r = 10\Delta$$

$$rd = 10\Delta$$

$$a_r = a+d = v + r = r\Delta$$

$$d = r$$

$$\frac{a_r - a_r + a_1}{a_1} = \frac{r\Delta - v + r - r}{v - r} = \frac{v}{-r} = -\frac{1}{r}$$

$$a_1 + a_r + a_v = 1\Delta$$

$$a-d, a, a+d \rightarrow ra = 1\Delta \quad a = \Delta$$

$$a_r + a_\Delta = r\Delta$$

$$r+d + r+r = 10 + \Delta = r\Delta$$

$$\Delta d = 1\Delta \quad d = r$$

$$a_{10} = a + 1d = \Delta + 1 \times r = r\Delta$$

$$S_9 = 9.5r$$

$$S_9 = \frac{9}{2} (ra_1 + 1d) = 9 \times \frac{r}{2} (ra_1 + rd)$$

$$9a_1 + 4d = rva_1 + rvd$$

$$9d = 10a_1$$

$$d = ra_1$$

$$\frac{a_{r0}}{a_v} = \frac{a + 19d}{a + 9d} = \frac{a + 19 \times ra}{a + 9 \times ra} = \frac{a + 19a}{a + 18a} = \frac{20a}{19a}$$

$$\int r$$

$$a_1 = 11, \quad a_v = r\Delta$$

$$a_v = a + 9d$$

$$9d = r\Delta \quad d = r$$

$$\rightarrow ar = 11 + r\Delta = 11 + r \times r = r^2$$

$$a'_1 = r$$

$$a'_r = r$$

$$\frac{r}{r} = \frac{ra_1 + rd}{-1\Delta = rd} \quad d = -\Delta$$

$$-\Delta = \frac{1r - r}{n+1}$$

$$-\Delta n - \Delta = 1r - r \quad -\Delta n = -10 \quad \int n = r$$