

المسألة الأولى

$$10, 13, 16, 19, 22, \dots$$

$$d = 3$$

$$t_n = 10 + (n-1)d$$

$$t_n = 10 + 3n - 3 = 3n + 7$$

$$(3 \times 10) + 7 = 37$$

$$t_{n+1} = \frac{1}{2} (a_1 + a_n) = 3 \times 10 + 7 = 37$$

$$a_1 \times (4 + 37) = a_1 \times 41 = 156$$

المسألة الثانية

$$5a_1 + 11d = 5 \times 9 +$$

$$11 \times 3 = 5 \times 9 + 33 =$$

$$78$$

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

$$1 + \sqrt{3}, 2, 3, 4, \dots$$

$$a_{2n} - a_{n+1} = 2d$$

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

$$x + y = 1$$

$$\frac{x + y}{2} = 1$$

$$x + y = 2$$

$$x^{2x} + x^y = 2 \times x^{2x}$$

$$x \times x^{2x} = x^{2x+1}$$

$$1 + 2x = y$$

$$x + y = 2$$

$$2x - y = -1$$

$$2x = 1$$

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

$$y = \frac{3}{2}$$

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$$\frac{r_1 + r_2 - \epsilon}{r} = r_2 - 1 \quad (1)$$

$$\frac{r_1 + r_2 - \epsilon}{r} = r_2 - 1$$

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$$\epsilon r = r \rightarrow r = \frac{1}{r}$$

$$-r_1, 0, r_1, r_2$$

$$a_n = r_1, 0, 0, \dots, r_{n+1} \quad \left\{ \begin{array}{l} r_{n+1} - 1 \leq \epsilon \\ r_n - 1 \leq \epsilon \end{array} \right. \quad (4)$$

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$$a_n = r_1, 0, 0, \dots, r_{n+1}$$

$$r_n \leq \epsilon, r_{n+1} \leq \epsilon$$

$$a_r = \epsilon$$

$$r_1, r_2, r_3, \dots, r_n$$

$$a_r = 0$$

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$$a_1 + a_2 + \dots + a_n = r_1$$

(V)

$$r_1 + r_2 = r_1 \rightarrow a + d = a_r = V$$

$$a_1 - a_2 = r_1 + a + \epsilon d = 1, 0$$

$$r_1 + r_2 = 1, 0$$

$$a + r_1 d = a_r = r_1$$

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$$a \rightarrow a_r + a_1 = a_1 + r_1 d = a_1 - d + a_1$$

$$a_1 - d + a_1 = a_1 + d = a_r = V$$

$$r_1 - V + a_1 = r_1 + a_1 = V \rightarrow a = -1$$

$$\frac{V}{-1}$$

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$$a_1 + a_1 + d + a_1 + d = 1a \rightarrow 3a_1 + 2d = 1a \quad (1)$$

$$a_1 + 2d + a_1 + 3d = 2a \rightarrow 2a_1 + 5d = 2a \quad (2)$$

$$a_1 = a_1 \quad \rightarrow \quad a_1 - a_1 = 0 \quad \rightarrow \quad a_1 + (n-1)d = a_n$$

$$1 + (n-1)d \rightarrow 1 + 9d = 10 \quad (3)$$

$$\frac{9(1a + 1d)}{1} = 9 \times \frac{1(1a + 1d)}{1}$$

$$9(a + d) = 10(a + d) \quad a_1 + 9d = 1a + 1d$$

$$1a = d \quad \frac{a_1 + 9d}{a_1 + 9d} = \frac{1a}{1a} = 1 \quad (10)$$

$$a_1 = 11 \quad \rightarrow \quad 11, 10, 9, 8$$

(11)

$$a_1 + 9d = 1a \quad d = 8 \quad 1a + 9 = a_n$$

$$1a + 9 = 1a \quad 15$$

$$b_1 = 11$$

$$b_1 = 11 = b_1 + 1d$$

$$1d = -10$$

$$d \rightarrow -10$$

$$1d = -10 \rightarrow 1d = -10$$

$$\frac{-10}{-1} = 10 \quad (10)$$

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