

$$t_n = 9, 9, 12, 17, \dots$$

$\begin{array}{cccc} & \nearrow & \nearrow & \nearrow \\ & +2 & +2 & +5 \end{array}$

$$t_n = t_{n+1}$$

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$$t_{10} = 2 \times 10 + 1 = 21$$

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$$t_n = 4, 10, 14, 18, \dots$$

$\begin{array}{cccc} & \nearrow & \nearrow & \nearrow \\ & +6 & +4 & +4 \end{array}$

$$t_n = t_{n+4}$$

$$\frac{10}{4} (2 \times 4 + 4) = 25$$

$$t_{10} = 24$$

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$$t_{41} = 14(91 + 4) = 14 \times 95$$

$$S_{42} = 14(91 + 4) = 14 \times 95$$

$$S_{40} = 10(18 + 4) = 110$$

$$\Rightarrow t_{41} + t_{42} + t_{43} + t_{44} = 14 \times 95 - 110 = 1240$$

$$1 + \sqrt{2}, \sqrt{2}, \sqrt{2} - \sqrt{2}$$

$\begin{array}{cc} \nearrow & \nearrow \\ +\sqrt{2} & +\sqrt{2} \end{array}$

$$t_n = (1 - \sqrt{2})n + \sqrt{2}$$

$$t_{42} = \sqrt{2} - \sqrt{2}\sqrt{2} + \sqrt{2} = \sqrt{2} - 2 + \sqrt{2} = 2\sqrt{2} - 2$$

$$t_{43} = \sqrt{2} - \sqrt{2}\sqrt{2} + \sqrt{2} = \sqrt{2} - 2 + \sqrt{2} = 2\sqrt{2} - 2$$

$$\Rightarrow t_{42} - t_{43} = \sqrt{2} - 2 + \sqrt{2} - (\sqrt{2} - 2 + \sqrt{2}) = 0$$

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$$a_n = 2^n, 2^n \times 2, 2^4$$

$\begin{array}{cc} \nearrow & \nearrow \\ +2 & +2 \end{array}$

$$2^n + 2^4 = 2^n \times 4 \Rightarrow 2^4 = 2^n \times 2 \Rightarrow 2^4 = 2^{n+1} \Rightarrow 4 = n+1 \Rightarrow n=3$$

$$b_n = n, 2, 4 \Rightarrow n+2=4$$

$$\Rightarrow \begin{cases} y = 2n+1 \\ n+y = 4 \end{cases} \Rightarrow \begin{cases} n=1 \\ y=3 \end{cases} \Rightarrow ny = 3$$

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$$2n-2, 2n-1, 2n, \dots$$

$$2n-2 = 2n-1 \Rightarrow n = \frac{1}{2}$$

$$\Rightarrow t_n = 2n-4 \Rightarrow t_2 = 14-4=10$$

$$-1, 0, 1, \dots$$

$\begin{array}{cc} \nearrow & \nearrow \\ +1 & +1 \end{array}$

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$$b_n = 1, 2, 3, \dots \quad 1, 2, 3, (11), 12, (14), \dots \quad b_n = 2, 3, \dots$$

$$a_n = 1, 2, 3, 4, \dots \quad 1, 2, 3, 4, (11), 12, 13, (14), \dots \quad a_n = 1, 2, 3, \dots$$

$$t_n = 1, 2, 3, 4, \dots \Rightarrow t_n = 4n - 1$$

$$\Rightarrow 4n - 1 < \varepsilon \quad 4n < \varepsilon + 1 \Rightarrow n < \frac{\varepsilon + 1}{4} \quad \text{Q.E.D.}$$

$$a_1 + a_2 + a_3 = a_1 + a_1 + a_1 + a_1 = 4a_1 = 4 \Rightarrow a_1 = 1 \Rightarrow a_1 + a_2 = 2$$

$$a_1 + a_2 + a_3 = a_1 + a_1 + a_1 + a_1 = 4a_1 = 4 \Rightarrow a_1 = 1 \Rightarrow a_1 + a_2 = 2$$

$$a_1 + a_2 = 2$$

$$\begin{array}{l} a_1 + a_2 = 2 \\ a_1 = 1 \end{array} \Rightarrow \begin{array}{l} a_2 = 1 \\ a_1 = 1 \end{array} \Rightarrow a_1 + a_2 = 2$$

$$a_1 = 1$$

$$a_1, a_2, a_3, a_4, a_5 \Rightarrow a_1 = 1, a_2 = 1, a_3 = 1, a_4 = 1, a_5 = 1$$

$$a_1 + a_2 + a_3 + a_4 + a_5 = 5a_1 = 5 \Rightarrow a_1 = 1$$

$$t_n = 5n - 1 \Rightarrow t_{10} = 49$$

$$\frac{a}{x} (x a_1 + x a_2) = \frac{a}{x} (x a_1 + x a_2) \Rightarrow a a_1 = a a_2$$

$$a (a_1 + x a_2) = x a (a_1 + a_2) \Rightarrow a_1 + x a_2 = x a_1 + a_2 \Rightarrow x a_1 = a_1$$

$$\frac{a_1}{a_2} = \frac{a_1 + x a_2}{a_1 + a_2} \Rightarrow \frac{a_1}{a_2} = \frac{a_1 + x a_2}{a_1 + a_2} \Rightarrow \frac{a_1}{a_2} = \frac{a_1 + x a_2}{a_1 + a_2}$$

$$a = \frac{x a - 1}{x - 1} = \frac{x a - 1}{x - 1} \Rightarrow t_n = x n + 1 \Rightarrow t_{10} = 11$$

$$x a, \frac{x a}{x}, \frac{x a}{x}, x a \Rightarrow a = \frac{x a - 1}{x - 1} = a$$

$$x a, \frac{x a}{x}, \frac{x a}{x}, \frac{x a}{x}, \frac{x a}{x}, \frac{x a}{x} \rightarrow \frac{x a}{x}$$