

$$t_n = 0 \ 9 \ 13 \ 17$$

$$\text{الف) } \boxed{E_{n+1}}$$

$$\text{ب) } E(1.0) + 1 = \boxed{E1}$$

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

$$\text{الف) } S_n = \frac{n}{2} (2a + (n-1)d) = \frac{10}{2} (12 + (4)9) = \boxed{240}$$

$$\text{ب) } t_{r9} + t_{r7} + t_{r1} + t_{rr}$$

$$t_{r9} = 174 \quad t_{r7} = 180 \quad t_{r1} = 186 \quad t_{rr} = 188$$

$$\begin{aligned} * &= a_1 + a_4 = 12 + 9d \Rightarrow t_{r9} + t_{r7} + t_{r1} + t_{rr} = 174 + 180 + 186 + 188 = \boxed{728} \\ * &= 728 \end{aligned}$$

$$r(*) = 794$$

$$t_{r0} - t_{rr} = \boxed{2d}$$

$$d = r - (1 + \sqrt{r}) = \boxed{1 - \sqrt{r}}$$

$$rd = r(1 - \sqrt{r}) = \boxed{r - r\sqrt{r}}$$

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$$a_n = 0^x, 3x, 0^x, 0^y$$

$$b_n = x, y, y$$

$$\frac{a^x + a^y}{r} = 3 \times 10^x \rightarrow a^x + a^y = 3 \times 10^x \rightarrow 10^x + 10^y \times 10^x \rightarrow 10^y = 10^x + 2$$

$$10^y = 10^x \times 10^1 \rightarrow y = x + 1$$

$$\frac{x+y}{r} = 3 \rightarrow x+y = 6$$

$$\begin{cases} x+y=6 \\ 10^x - y = 1 \end{cases} \rightarrow \begin{aligned} x &= 1 \\ y &= 5 \end{aligned}$$

$$2xy = 10$$

$$10^x - 1 - (10^x - 6) = 6^x - (10^x - 1)$$

$$6^{x+1} = 10 \Rightarrow \boxed{x = 0.10}$$

$$\left. \begin{aligned} t_1 &= -3 \\ d &= 3 \end{aligned} \right\} \Rightarrow t_6 = a + 5d = -3 + 15 = \boxed{12}$$

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

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

$$c_n = 4n-1 \rightarrow d, 11, 17, \dots$$

$$\left. \begin{array}{l} a_r = \varepsilon 1 \\ b_r = \delta 9 \end{array} \right\} \Rightarrow 4n-1 < \varepsilon 1$$

$$4n < \varepsilon 1$$

$$n < \frac{\varepsilon 1}{4}$$

$n < \frac{\varepsilon 1}{4} \rightarrow$ $\checkmark$

$$a_1 + a_r + a_r = r1$$

$$\Rightarrow a_r = v$$

$$a_1 + a_r + a_d = 1.0$$

$$\Rightarrow a_r = r0$$

$$\Rightarrow a_1 = -r1$$

$$d = r1 \checkmark$$

$$a_r - a_r + a_1 = r0 - v + (-r1) = \boxed{v}$$

$$\frac{a_r - a_r + a_1}{a_1} = \frac{r0 - v - r1}{-r1} = \boxed{-\frac{1}{r}}$$

$$a_1 + a_r + a_r = 1.0$$

$$\Rightarrow a_r = d \rightarrow a + d$$

$$a_1 + a_d = r0$$

$$a + r d + a + \varepsilon d$$

$$(a + d) + r d + (a + d) + r d$$

$$1. + 0d = r0 \Rightarrow \boxed{d = r}$$

$$a_r = r$$

$$a_1 = r + 9(r) = \boxed{r9}$$

$$S_9 = 9S_r = \frac{9}{r} (ra_1 + rd) = 9 \times \frac{r}{r} (ra_1 + rd)$$

$$a_1 + rd = ra_1 + rd \rightarrow ra = d$$

$$\frac{a_r}{a_v} = \frac{a_1 + 9d}{a_1 + 9d} = \frac{a_1 + 9ra_1}{a_1 + 9ra_1} = \frac{r9a_1}{1ra_1} = \boxed{r}$$

$$a_n = \begin{cases} a_1 = 11 \\ a_v = r0 \end{cases} \rightarrow a_1 + 9d = r0 \rightarrow 9d = r0 \rightarrow d = r$$

$$a_r = a_1 + rd \rightarrow a_r = 11 + r(r) = r1$$

$$b_n = r1, 0, 0, 0, \dots, 0, 1r$$

$$b_r = a_1 + rd \rightarrow r1 = r1 + rd \rightarrow d = -0$$

$$\frac{r1 - r1}{n+1} = -0 \rightarrow \boxed{n = 2}$$