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20/10/2020

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$$t_{10} = a + 9d \quad \left\{ \begin{array}{l} a + 9d - a - 9d = 1r \\ t_{10} - t_1 = 1r \end{array} \right. \rightarrow t_9 - t_1 = a + 9d - a = 9d = 1r$$

$$a_r = r \quad \left\{ \begin{array}{l} a_r - a_r = 1 \Rightarrow a + r d - a - d = 1 \Rightarrow d = r \\ a + d = r \Rightarrow a = r \end{array} \right. \rightarrow a_1 = b, r = r \quad \left\{ \begin{array}{l} b_r = b + d = 1 \Rightarrow r + d = 1 \Rightarrow d = 1 \\ \Rightarrow b_n = 1n - 1 \end{array} \right.$$

$$t_n = \frac{r^n - 1}{r - 1} \quad \rightarrow \quad t_n = \frac{r^n - 1}{r - 1} < \frac{r^n}{r} \Rightarrow 1n - 1 < 9n + 9$$

$n < \frac{1r}{r} \Rightarrow n < 1$

استدلال غير صحيح

$$t_n = 9, 9, 9, 9, 9 \quad \left\{ \begin{array}{l} -\frac{r^n}{r} + B = 9 \\ -9 - (-\frac{r^n}{r}) + B = 9 \Rightarrow B = \frac{10}{r} \end{array} \right. \quad \left\{ \begin{array}{l} 1 + B + C = -9 \\ 9 + rB + C = -9 \end{array} \right. \Rightarrow r + B = 1 \Rightarrow B = -1$$

$$rA + 10B = -\frac{9}{r} + \frac{10}{r} = \frac{1}{r} = \boxed{r}$$

$$t_n = -9, -9, -9, -9, -9 \quad \left\{ \begin{array}{l} 1 + B + C = -9 \\ 9 + rB + C = -9 \end{array} \right. \Rightarrow r + B = 1 \Rightarrow B = -1$$

$$a_r = r \quad \left\{ \begin{array}{l} a_1 + d - a_1 - d = 10 \Rightarrow d = 10 \Rightarrow a_1 = r$$

$$a_n = r, r, r, r, r, \dots$$

$$t_n = -9, -9, 9, 9, 9, 9, 9, \dots$$