

۱. tn و an

ب) $41 = 1 + 4(10) = 41$

۲. $d = \frac{10-6}{2-1} = 4$ $S_6 = \frac{6}{2}(12 + 4(5)) = 24$

ب) $a_1 + a_2 + a_3 + \dots + a_n = a_1 + (a_1 + d) + (a_1 + 2d) + \dots + (a_1 + (n-1)d)$
 $= 4a_1 + 3d = 4(6) + 3(4) = 24 + 12 = 36$

۳. $1-3-5 \rightarrow$ اختلاف جمله به جمله ۲ واحد

$3-1-3 \rightarrow$ اختلاف جمله به جمله ۲ واحد

$5-3-1 \rightarrow$ اختلاف جمله به جمله ۲ واحد

اختلاف دو جمله به هم ۲ واحد است
 $2(1-3) = 2(-2) = -4$

$a_n \Rightarrow 4x^2 + 5x + 5$

$4 = \frac{4x^2 + 5x + 5}{x^2}$

$4 = 1 + \frac{5x + 4}{x^2}$

$5x + 4 = 0 \rightarrow y - 2x = 1$
 $y = 2x + 1$

$b_n \Rightarrow x + y = 4$

$x = 4 - y$

$\rightarrow xy = (4-y)y$

$= 4y - y^2$

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

$4x+1 = 3$

$4x = 2$

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

$\rightarrow -3, 0, 3, \dots$

$t_n = 3n - 6$

$t_4 = 3(4) - 6 = 12 - 6 = 6$

$$a_n = \textcircled{a} n \textcircled{a} 1 \rightarrow \textcircled{a}, \textcircled{a}, \textcircled{11}, \textcircled{a} 1$$

$$b_n = \textcircled{a} n \textcircled{a} 1 \rightarrow \textcircled{a}, \textcircled{a}, \textcircled{11}, \textcircled{a} 9$$

$$t_n = \textcircled{a} n \textcircled{a} 1 \rightarrow \textcircled{a}, \textcircled{11}, \dots$$

$$t_{n-1} \leq \textcircled{a} 1$$

$$n \leq \frac{\textcircled{a} 1}{\textcircled{a}} - \textcircled{a} \rightarrow \boxed{n \leq \textcircled{a}}$$

$$a_1, a_1 + d = a_1 + \textcircled{a} d = \textcircled{a} 1 \rightarrow \textcircled{a} (\frac{a_1 + \textcircled{a} d}{\textcircled{a}}) = \textcircled{a} 1$$

$$a_1 + a_1 + \textcircled{a} d = a_1 + \textcircled{a} d = \textcircled{a} 1 \rightarrow \textcircled{a} (\frac{a_1 + \textcircled{a} d}{\textcircled{a}}) = \textcircled{a} 1$$

$$\begin{cases} a_1 + \textcircled{a} d = \textcircled{a} 1 \\ a_1 + \textcircled{a} d = \textcircled{a} 1 \\ \rightarrow a_1 = \textcircled{a} 1 \\ d = \textcircled{a} 1 \end{cases}$$

$$\frac{a_1 + \textcircled{a} d}{\textcircled{a}} = \frac{a_1 + \textcircled{a} d - a_1 + \textcircled{a} d}{\textcircled{a}} = \frac{a_1 + \textcircled{a} d}{\textcircled{a}} = \frac{\textcircled{a} 1}{\textcircled{a}} = \textcircled{a} 1$$

$$a_1 + a_1 + \textcircled{a} d = a_1 + \textcircled{a} d = \textcircled{a} 1 \rightarrow \textcircled{a} (\frac{a_1 + \textcircled{a} d}{\textcircled{a}}) = \textcircled{a} 1$$

$$a_1 + a_1 + \textcircled{a} d = a_1 + \textcircled{a} d = \textcircled{a} 1 \rightarrow \textcircled{a} (\frac{a_1 + \textcircled{a} d}{\textcircled{a}}) = \textcircled{a} 1$$

$$\textcircled{a} (\frac{a_1 + \textcircled{a} d}{\textcircled{a}}) = \textcircled{a} 1$$

$$\begin{cases} a_1 + \textcircled{a} d = \textcircled{a} 1 \\ a_1 + \textcircled{a} d = \textcircled{a} 1 \end{cases} \rightarrow d = 0$$

$$\boxed{t_1 = \textcircled{a}}$$

$$S_1 = \textcircled{a} 1$$

$$\textcircled{a} (a_1 + \textcircled{a} d) = \textcircled{a} (\frac{a_1 + \textcircled{a} d}{\textcircled{a}})$$

$$\frac{a_1 + \textcircled{a} d}{\textcircled{a}} = \frac{a_1 + \textcircled{a} d}{\textcircled{a}}$$

$$a_1 + \textcircled{a} d = \textcircled{a} a_1 + \textcircled{a} d$$

$$\textcircled{a} d = \textcircled{a} a_1$$

$$a_1 = d$$

$$\frac{\textcircled{a} d}{\textcircled{a} d} = \boxed{\frac{\textcircled{a} 1}{\textcircled{a}}}$$

$$t_1 = \textcircled{a} 1, t_2 = \textcircled{a} 2$$

$$a_1 = \textcircled{a} 1$$

$$t_n = \textcircled{a} 1 + (n-1) \textcircled{a}$$

$$a_1 = \textcircled{a} 1$$

$$a_n = \textcircled{a} 1 + (n-1) \textcircled{a}$$

$$a_n = \textcircled{a} 1 + (n-1) \textcircled{a}$$

$$\textcircled{a} 1 + (n-1) \textcircled{a} \leq \textcircled{a} 1$$

$$\boxed{n \leq \textcircled{a}}$$