

① ② ③
 $(11), (2, 3, 4), (5, 4, 7, 8, 9) \dots$
 عدد وسط $\rightarrow n^2 - (n-1) \rightarrow 9 \times 9 - 8 = \boxed{73}$
 $(\dots 64) - 64 \leftarrow 73 \rightarrow (11) (12 \dots)$
 $\frac{11 + 7 \times 9}{2} = \frac{73}{2} = \boxed{73}$

$(1, 2, 3), (4, 5, 6, \dots, 12), (3, 14, \dots, 39), (50, 41, 47, \dots, 130),$
 $(121, 122, 123, 124, \dots, 363)$
 $\frac{121 + 363}{2} = 242$

$a_0, a_3, a_6, a_9 \rightarrow$ ضرایب $\left[\frac{n}{k+2} \right] - 2 \rightarrow \left[\frac{3k+2}{k+2} \right] - 2 =$
 $a_1, a_4, a_7 \rightarrow$ ضرایب $\left[\frac{n}{k+2} \right] - 2 \rightarrow \left[\frac{3k+2}{k+2} \right] - 2 =$
 $a_2, a_5, a_8 \rightarrow$ ضرایب $\left[\frac{n}{k+2} \right] - 2 = \left[\frac{k-2}{k+2} \right]$
 $510 = 1 + 8 + (1+a) + 2 + (1+a) + 8 + 0 + (2+a) + 1 + 8 = 19$

$an = a_1 r^n + b + c$
 $2a + b + c = 14$
 $8a + 7b + c = 1712$
 $12a + b = 174 \rightarrow b = 8$
 $12a + 8 = 174 \rightarrow 12a = 166 \rightarrow a = 13.83$
 $a = \frac{1}{15} \times (-14) = -0.93$

$a_1 + 3d_1 = a_2 + d_1$
 $a_1 + 7d_1 = a_2 + 4d_1$
 $a_1 + 14d_1 = a_2 + 7d_1$
 $d_1 = \frac{a_2 - a_1}{7}$
 $d_1 = \frac{a}{7}$

$$y a^r + y d^r + 1 k a d = 1 a^r + 1 k a d$$

$$y d^r = r a^r + a d$$

$$y d^r - r a^r - a d = (y d + a)(k d - r a)$$

$$t \varepsilon = a + k d$$

$$a = -r d$$

$$a = 1/k d$$

$$\frac{d}{d} = 1$$

$$\frac{\varepsilon d}{d} = \varepsilon/k$$

$$a, b, c$$

$$r b = a + c$$

$$r b - a = c$$

$$\frac{c}{\varepsilon}, \frac{a}{r}, b$$

$$a^r = b c$$

$$\frac{a^r}{b} = c$$

$$r b - a = \frac{a^r}{b}$$

$$r b^r - a b - a^r = (r b + a)(b - a) = 0$$

$$r b = -a$$

$$b = 0$$

$$r b, r a, c$$

$$\varepsilon a = r b + c$$

$$\varepsilon a - r b = c$$

$$\frac{a^r}{a^r} = q^r$$

$$a, b, c \rightarrow q = \frac{b}{a} = \frac{c}{b}$$

$$b = a c$$

$$\frac{b^r}{a} = c$$

$$\varepsilon a - r b = \frac{b^r}{a} \rightarrow (\varepsilon a + b)(a - b) = 0$$

$$\varepsilon a = -b$$

$$a = b$$

$$\frac{q^r}{a^r} + \frac{q}{a} = r$$

$$\frac{a \cdot q^r}{a^r \cdot q^r} + \frac{a \cdot q}{a \cdot q} = r$$

$$\frac{1}{a^r} + \frac{1}{a} = r$$

$$\frac{a \cdot a}{a \cdot a} = \frac{a}{a} = 1$$

$$\frac{q(q+a)}{a^r} = r \rightarrow (r a - q)(a + q) = 0$$

$$\frac{q}{a} = -\frac{1}{r}, \frac{q}{a} = 1$$

$$-a = q$$

$$a^r = a q^r$$

$$a \varepsilon_1 = a q^r = (a q^r)^r$$

$$a \varepsilon = a q^r = r \varepsilon$$

$$a q^r - a q^r = a q = 1$$

$$\frac{a q^r}{a q} = \frac{r \varepsilon}{1}$$

$$q = \varepsilon$$

$$\frac{1}{r} - \frac{1}{r} = \frac{1}{r}$$