

۸۱ → آخرین دسته رقم
 ۹۵ → اولین دسته رقم → ۹۴ → آخرین دسته رقم

$$\frac{81 + 95}{2} = 88$$

۱

$\{1, 2, 3\} \{4, 5, \dots, 12\}$ -----

$13 \times 14 = 182$ (۳)
 $15 \times 16 = 240$ (۴)
 $17 \times 18 = 306$ (۵)

$$\frac{182 + 240 + 306}{3} = \frac{728}{3} = 242 \frac{2}{3}$$

۲

$a_r + a_s + a_t + \dots + a_v$ $f, 1, a, 2, 3, \dots$

$a = -1$ $a_n = \left[\frac{n}{k+r} \right] + a \approx \left[\frac{n}{k+r} \right]$

$r, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20$

$\downarrow$
 $0 + 0 + 1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 = 8$

۳

$a_n = an^r + bn + c$, $a_8 = 18$

$a_8 \rightarrow a = \frac{1}{8} \times a_8 = \frac{1}{8}$ $\frac{1}{8}(8^r) + b(8) + c = 18$
 $ab + c = a$

$a_9 = 19, 10 \rightarrow \frac{1}{10}(10^r) + b(10) + c = 19 \Rightarrow 10b + c = 19, 1$
 $10b + (1 - 8b) = 19, 1 \Rightarrow 2b + 1 = 19, 1 \Rightarrow b = 9 \rightarrow c = 1 - 8 \times 9 = -71$

$a_1 = \frac{1}{1}(1)^r - \frac{8}{1}(1) + 19$
 $a_1 = 10, 1$
 $a_{10} = \frac{1}{10}(10)^r - \frac{8}{10}(10) + 19$
 $a_{10} = 10, 1$
 $\frac{10}{10, 1} = 1, 1, \dots$

۴

$a_e = b_r$ $b_v = b_r + \omega d_b = a_A = a_e + f d_a \Rightarrow \omega d_b = f d_a$
 $a_A = b_v$
 $b_0 = 0$

$\frac{b_{10}}{d_a} = 1 \Rightarrow \frac{b_0 + \omega d_b}{d_a} = \frac{f d_a}{d_a} = 1$

۵

$q(a+d)^r = a(a+rd)^r + r(a+d)a$ $qa^r + rd^r + rad = a^r + rad + ra^r + rad$ $ra^r + ab - 4d^r = 0$ $\frac{a^r}{d} = \frac{a+rd}{d} = \frac{a}{d} + r \rightarrow -r + r = 1$ $ra^r + \frac{a+rd}{d^r} - qd^r = 0 \Rightarrow r\left(\frac{a}{d}\right)^r + \frac{a}{d} - q = 0$ $\Delta = 1^r - \epsilon \times r \times -q = 1 + \epsilon \Delta = \epsilon q \Rightarrow V \rightarrow \frac{-1 + \sqrt{1 + 4\epsilon q}}{2} = \frac{a}{d}$	6
$\frac{a^r}{\epsilon} = \frac{bc}{r} \Rightarrow a^r = bc \rightsquigarrow a^r = b(rb-a) \Rightarrow a^r + ab - rb^r = 0$ $rb = a + c \rightarrow c = rb - a$ $q = \frac{\frac{a}{r}}{b} \rightsquigarrow rq = \frac{a}{b} = \frac{c}{a}$ $a = -rb$ $rq = \frac{a}{b} = \frac{-rb}{b} = -r \quad rq = \frac{a}{b} = \frac{b}{b} = 1$ $b^r \rightarrow \left(\frac{a}{b}\right)^r + \left(\frac{a}{b}\right) - r = 0 \Rightarrow n^r + n - r = 0$ $(n+r)(n-1) = 0 \rightarrow \frac{a}{b} = -r \Rightarrow a = -rb$ $\frac{a}{b} = 1 \Rightarrow a = b$	7
$b^r = ac \rightarrow b = ar, c = ar^r$ $\epsilon a = rb + c \rightarrow ra = ar + ar^r \rightarrow \epsilon = r + r^r \rightarrow r^r + r - \epsilon = 0 \Rightarrow (r+\epsilon)(r-1) = 0$ $r = -\epsilon$ $\frac{a_a}{a_a} = \frac{ar^r}{ar^a} = \left(r^r\right) = (-\epsilon)^r = -q\epsilon$	8
$\frac{a_q}{(a_r)^r} + \frac{a_r}{(a^r)} = r$ $\frac{ar^{qr}}{ar^{qr}} + \frac{ar}{a^r} = \frac{r^r}{a^r} + \frac{r}{a} = r \rightarrow \left(\frac{r}{a}\right)^r + \frac{r}{a} - r = 0$ $\left(\frac{r}{a} + r\right)\left(\frac{r}{a} - 1\right) = 0$ $\frac{r}{a} = -r$ $\frac{r}{a} = 1$ $\frac{a^r}{a_r} = \frac{a^r}{ar} = \frac{a}{r} \rightarrow \frac{1}{r}$	9
$a_r^r = a_\epsilon \rightarrow \frac{a_\epsilon}{a_r} = a_r = q = aq^r = q \rightarrow aq = 1$ $a_a = rv \rightarrow a.q^r = rv = aq^r = rv \rightarrow q = r \rightarrow a = \frac{1}{r}$ $\frac{1}{r} - a_i = r \rightarrow \frac{1}{r} - \frac{1}{r} = \frac{1}{q}$	10