

۱۹/۲۵ ~ آزمون

کتابخانه صیدان
لازم B

سوال ۱ <=

در دسته یخ و الیاء مساجی بین

دو عدد اول و آخر

آزمون عدد <= ۸۱

لقد لا اعداد <= ۱۷

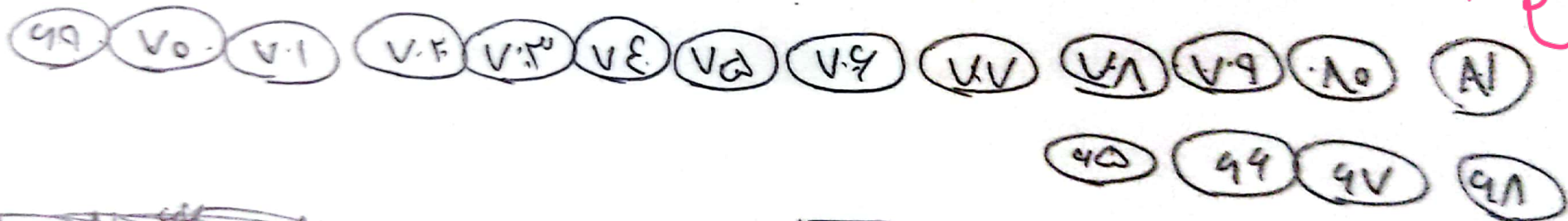
$$d = \frac{a_n - a_1}{n-1}$$

$$\{1\}, \{2, 3, 4\}, \{5, 6, 7, 8, 9\}$$

$$n + n - 1$$

$$9^2 = 81$$

$$1 + 9 = 10$$



$$= 9 \quad \frac{81 + 45}{2} = 63$$

$$\frac{ar}{(ar)^r} + \frac{ar}{(ar)^r} = r$$

$$\frac{(ar)^r}{ar} = \frac{a^r}{ar} = \frac{a}{r}$$

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

مسألة ٩

$$\frac{r^r}{(ar)^r} + \frac{r}{a} = r$$

$$\frac{r^r}{(ar)^r} = \left(\frac{r}{ar}\right)^r = \left(\frac{1}{a}\right)^r = \frac{1}{a^r}$$

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

$$\left(\frac{1}{a} + \frac{1}{a^r} = r\right) a^r = r \quad ra^r - a - 1 = 0$$

$$(ra+1)(a-1) = 0$$

$$= ra = -\frac{1}{r} \quad a = 1$$

$$\frac{(ar)^r}{ar} = \left| \begin{array}{c} 1 \\ \frac{1}{r} \\ -\frac{1}{r} \end{array} \right|$$

مسألة ١٠

$$\begin{array}{ccc} a & b & c \\ \downarrow & \downarrow & \downarrow \\ a_1 & a_r & ar \\ \uparrow & \uparrow & \uparrow \\ r & d & \end{array}$$

دالة حساب

$$a_1 \quad a+d=b \quad a_1+d=c$$

$$a_1 = a_1 = r \quad a = b$$

$$\begin{array}{ccc} b & \frac{a}{r} & c \\ \downarrow & \downarrow & \downarrow \\ a_1 & ar & ar \\ \uparrow & \uparrow & \uparrow \\ r & r & r \end{array}$$

دالة

$$a_1 \quad ar = \frac{a}{r} \quad ar^r = \frac{c}{r}$$

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$$a, a+d, a+rd$$

$$a+d, \frac{a}{r}, \frac{a+rd}{r} = r \quad \frac{a^r}{r} = r(a+d)\left(\frac{a+rd}{r}\right)$$

$$ar = ar + rad + ad + rd^r$$

$$\Leftarrow \frac{a^r}{r} = \frac{a^r + rad}{r} + \frac{ad + rd^r}{r}$$

$$-rd^r = rad \quad -rd \neq 0$$

$$-rd = ra$$

$$r = \frac{a}{r} = \frac{a}{a+rd} = \frac{a}{ra+rd} = \frac{a}{-a} = -1$$

$$ar = tr \quad t_1 = 0$$

$$t_1 + 4b = 0 \quad t_1 = -4b$$

$$\frac{t_1 + 4b}{d} = \frac{ab}{d} = \frac{rd}{d} = r$$

مسألة ١١

$$a_1 = tv \quad a_1 + rd = t_1 + b$$

$$a_1 + rd = t_1 + 4b$$

$$\left. \begin{array}{l} a_1 + rd = -1b \\ a_1 + rd = -4b \end{array} \right\}$$

$$rd = ab$$

$$a_1 + rd = -4b$$

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$\{1, 2, 3\}$, ~~$\{4, 5, 6, 7, 8, 9, 10, 11, 12\}$~~ ... $\leftarrow$ السؤال 2

~~$\{1, 2, 3\}$, $\{4, 5, 6, 7, 8, 9, 10, 11, 12\}$~~

$\{1, 2, 3\}$, $\{4, 5, 6, 7, 8, 9, 10, 11, 12\}$, $\{13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100\}$... $\leftarrow$ السؤال 2

$\{1, 2, 3\}$... $\frac{121 + 393}{9} = \boxed{52}$ ✓

$an = an^r + bn + c$ $\leftarrow$ السؤال 3

$1f = 2aa + ab + c$
 $11, 12 = 49a + 10b + c$

$1f = a_0$
 $11, 12 = a_1$

$a = \frac{1}{10} \times 1f = 4$ $\boxed{a = -0.12}$ $\boxed{b = 1}$ $\boxed{c = -1}$

$a_1 = -0.12 + 1 - 1 = 0.88$

$a_{10} = -0.12 \times (10)^r + 1 \times 10 + \frac{-1}{10} = 1.8$

$\frac{1.8}{10} = \boxed{0.18}$

$a ar^r = a ar^r + r ar^r$

$\begin{cases} ar=0 \\ ar=1 \end{cases} \Rightarrow \begin{cases} a=0 \\ ar=0 \end{cases}$

$ar=1 = 4 ar^r + r ar^r = 4$

$a(1-d^r) + r(1-d) = 4$

$0 = 4 ar^r + r ar^r - r \Rightarrow d = \frac{-r \pm \sqrt{r^2 + 16}}{10} \rightarrow d = -1$

$d = 0.8$

$\frac{ar+rd}{d} \rightarrow d=1 \quad \frac{1+(-r)}{-1} = \boxed{1}$

$d = \frac{r}{a} \quad \frac{1+\frac{r}{a}}{\frac{r}{a}} = \boxed{1.5}$

$\leftarrow$ السؤال 4

$ar, a_1, a_0 = 4$ $(a_1)^r = 2 \sqrt{a_0 a_2}$

$a_1^r = 2 \sqrt{a_0 a_2}$

$a_1^r = 2 \sqrt{a_0 a_2}$ $\boxed{a_1 = 9}$

$a_1^r = 4 (a_1^r)^r = a_1^r$

$a_1^r = 3$ $4 a_1 = 3$

$a_1 = \frac{3}{4}$ $\frac{1}{4} - \frac{1}{4} = \boxed{\frac{1}{4}}$

$\leftarrow$ السؤال 10

$$a, b, c = 4a, ar, ar^2$$

$$rb, ra, c \rightarrow r ar, ra, ar^2 = 4rar = rar \times ar^2$$

$$rar = rar \times r^2$$

$$\frac{r}{r} = r^2$$

$\Leftarrow$ 1/20

1/20

$$\frac{ar}{ar^2} = \frac{ar^1}{ar^2} = \frac{r^1}{r^2} = r^{-1} = \frac{1}{r} = \boxed{\frac{1}{r}}$$

$$n = 0, 3, 6, 9, 12$$

معمولی

$$a_n = \begin{cases} 1 & n=0 \\ -2K+5 & n=3K+1 \\ \left\lfloor \frac{n}{K+2} \right\rfloor + a & n=3K+2 \end{cases} \quad n=0, 3, 6, 9, 12, \dots$$

$$a_0 = 1 \quad a_3 = 2 \quad a_6 = 1 \quad a_9 = 1$$

$$a_1 = 3 \quad a_4 = 2 \quad a_7 = 0$$

$$a_2 = 1+a \quad a_5 = 1+a \quad a_8 = 2+a$$

$$2a + 2a = 19 \quad 3a = -4 \quad a = -2$$

سوال ۳

~~$$10a + \{1 + 1 + 2 + 2 + \dots + 2\}$$~~

$$10a + \underbrace{\{1 + 1 + 2 + 2 + \dots + 2\}}_{11}$$

$$18 + 10a = 18 - 20 = -2$$

سوال ۸

دنباله‌ها $\rightarrow a, aq, aq^2 \quad (a, b, c)$

دنباله‌ها $\rightarrow 2aq, 2a, aq^2 \quad (2b, 2a, c)$

$$2aq + aq^2 = 2a \xrightarrow{+a} 3aq + aq^2 = 2a \rightarrow 3q + q^2 = 2$$

حالت
متناهی $\rightarrow q = 1 \quad \times$
 $\rightarrow q = -\frac{1}{2} \quad \checkmark$

$$q = -\frac{1}{2} \rightarrow \frac{aq}{a4} = \frac{aq^{\wedge}}{aq^{\Delta}} = q^{\wedge} = (-\frac{1}{2})^{\wedge} = -\frac{1}{4}$$