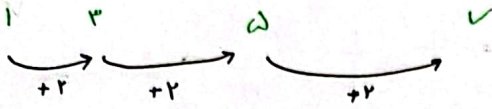


نام و نام خانوادگی محمد کسری پاسخنامه تشریحی تکلیف شماره ۱۷ کلاس دهم ریاضی

$$[1], [2, 3, 4], [5, 6, 7, 8, 9], [10, 11, 12, 13, 14, 15, 16], \dots$$



$$\text{تعداد اعداد هر دسته} = 2n - 1 \rightarrow 9 \text{ دسته} = 17$$

$$\text{تعداد اعداد} \rightarrow 9^2 = 81 \rightarrow \text{اعداد} = (81 + 1) - 17 = 64$$

$$\Rightarrow \frac{64 + 1}{2} = \boxed{33}$$

$$[1, 2, 3], [4, 5, \dots, 12], \dots$$

$$\text{تعداد} = 3^n \rightarrow t_5 = 3^5 = 243$$

$$t_5: [121, 122, \dots, 243] \rightarrow \frac{(243 + 121) \times 243}{2 \times 243} = \boxed{182}$$

$$\left. \begin{aligned} a_n &= an^2 + bn + c \\ a &= -\frac{1}{v_0} \times 18 = -\frac{1}{a} \end{aligned} \right\} \Rightarrow a_n = -\frac{1}{a}n^2 + bn + c \xrightarrow{a_5=18} -\frac{1}{a} + b + c = 18$$

$$\Rightarrow ab + c = 18, a_v = 17, 2 \rightarrow \frac{-f_9}{a} + vb + c = 17, 2 \Rightarrow vb + c = 18$$

$$\Rightarrow b = 18, c = -1 \Rightarrow a_n = -\frac{1}{18}n^2 + 18n - 1 \rightarrow \frac{a_{18}}{a_1} = \frac{-\frac{1}{18} \times 18^2 + 18 - 1}{-\frac{1}{18} + 18 - 1} = \boxed{18}$$

$$\left. \begin{aligned} a + 3d &= a' + d' \\ a + 6d &= a' + 4d' \end{aligned} \right\} \Rightarrow a' + 9d' = 0 \Rightarrow a' = -9d' \Rightarrow \left. \begin{aligned} a + 3d &= -9d' \\ a + 6d &= -3d' \end{aligned} \right\} \Rightarrow d = \frac{5}{3}d'$$

$$\Rightarrow d = \frac{5}{3}d'$$

$$a' + 18d' = 18d \rightarrow \frac{-9d' + 18d'}{\frac{5}{3}d'} = \boxed{6}$$

$$\begin{aligned} & \text{3.47} \rightarrow \frac{a}{b-d}, \frac{b}{b}, \frac{c}{b+d} \xrightarrow{\text{L'Hôpital}} b, \frac{1}{r}(b-d), \frac{1}{f}(b+d) \Rightarrow \frac{1}{f}(b-d)^r = b \times \frac{1}{f}(b+d) \\ & \Rightarrow b^r - r b d - d^r = b^r + b d \Rightarrow -r b d + d^r - b d = 0 \Rightarrow d^r - r b d = 0 \\ & \Rightarrow d(-r b + d) = 0 \rightarrow \begin{cases} d=0 \\ d=r b \end{cases} \rightarrow r q = r \left(\frac{\frac{1}{r} a}{b} \right) \Rightarrow r q = \frac{a}{b} = \frac{b-d}{b} \rightarrow \frac{b-r b}{b} = -r \\ & \quad , \frac{b-0}{b} = 1 \end{aligned}$$

$$a(1+a)^x + a(r+a) = y(a+1)^x \xrightarrow{\text{بیشتر می اید}} \Rightarrow a \rightarrow \frac{y}{r}$$

$$\Rightarrow \frac{a}{a} \rightarrow \frac{1}{\frac{a}{r}}$$

$$q = \frac{c}{b} = \frac{b}{A} \rightarrow aq^r = c, aq = b, r a - r b = C - r a \Rightarrow r a - r(aq)$$

$$= aq^r - ra \Rightarrow r - ra = q^r - r \Rightarrow ra + q^r = f \Rightarrow q^r + ra - f = 0$$

$$\Rightarrow q = \frac{1}{-f} \times \Rightarrow \frac{aq^1}{aq^2} = -4f$$

$$r = \frac{ar}{ar} + \frac{ar^d}{ar^r r^r} \rightarrow r = \frac{r}{a} + \frac{r^d}{ar^r} \rightarrow \frac{r}{a} + \frac{r^r}{ar} = r \rightarrow r a^r = ar + r^r$$

$$\Rightarrow \frac{a}{r} = \frac{a^r}{ar} = \frac{a^r}{a^r} \rightarrow 0 = ra^r - ar + r \rightarrow 0 = ra^r - \left(\frac{a}{\frac{a}{r}}\right)a$$

$$+ \left(\frac{a}{r} \right)^r \rightarrow r - \frac{1}{n} + \frac{1}{n^r} = 0 \Rightarrow r n^r - n + 1 = 0 \begin{cases} \nearrow n=1 \\ \searrow n=-\frac{1}{r} \end{cases}$$

$$a_r = \sqrt{a_f} \Rightarrow ar^r = \sqrt{ar^r} \rightarrow (ar^r)^r = ar^r \rightarrow a^r r^f = ar^r$$

$$\rightarrow ar^f = r^w \Rightarrow r_v = r^w \Rightarrow r = w$$

$$a_d = r v \Rightarrow a r f = r v \Rightarrow a = \frac{1}{r}$$

$$\frac{1}{2} - \frac{1}{3} = \frac{1}{6}$$