

۱۷, ۲۵

۱^۲ → پایان دسته اول

۲ شروع دسته ۲ → ۱^۲ + ۱ = ۲

(۲)

۲^۲ → پایان دسته دوم

۳ شروع دسته ۳ → ۲^۲ + ۱ = ۵

۳^۲ → پایان دسته سوم

۴ شروع دسته ۴ → ۳^۲ + ۱ = ۱۰

۴^۲ → پایان دسته چهارم

میانگین = $\frac{۲۵ + ۸۱}{۲} = \frac{۱۰۶}{۲} = ۵۳$ ✓

$a_n = 3(B a_{n-1} + 1)$

عدد اول دسته بعد از آخر دسته قبل به علاوه یک است در واقع عدد آخر ←

۳ = $3(B a_0 + 1)$

۱۲۱ = $120 + 1$ = اولین عدد دسته پنج

(۳)

۱۲ = $3(3 + 1)$

۳۴۳ = $3(120 + 1)$

۳۹ = $3(12 + 1)$

$\frac{۳۹۳ + ۱۲۱}{۲} = \frac{۵۱۴}{۲} = ۲۵۷$ ✓

۱۲۰ = $3(39 + 1)$

$n = 1 = 3(0) + 1 \Rightarrow k = 0$

$n = 4 = 3(1) + 1 \Rightarrow k = 1$

$a_0 = 1$ ✓

$3k = a_0, a_1, a_2, a_3, a_4, a_5, a_6, a_7, a_8, a_9, a_{10}, a_{11}, a_{12}, a_{13}, a_{14}, a_{15}, a_{16}, a_{17}, a_{18}, a_{19}, a_{20}, a_{21}, a_{22}, a_{23}, a_{24}, a_{25}, a_{26}, a_{27}, a_{28}, a_{29}, a_{30}, a_{31}, a_{32}, a_{33}, a_{34}, a_{35}, a_{36}, a_{37}, a_{38}, a_{39}, a_{40}, a_{41}, a_{42}, a_{43}, a_{44}, a_{45}, a_{46}, a_{47}, a_{48}, a_{49}, a_{50}, a_{51}, a_{52}, a_{53}, a_{54}, a_{55}, a_{56}, a_{57}, a_{58}, a_{59}, a_{60}, a_{61}, a_{62}, a_{63}, a_{64}, a_{65}, a_{66}, a_{67}, a_{68}, a_{69}, a_{70}, a_{71}, a_{72}, a_{73}, a_{74}, a_{75}, a_{76}, a_{77}, a_{78}, a_{79}, a_{80}, a_{81}, a_{82}, a_{83}, a_{84}, a_{85}, a_{86}, a_{87}, a_{88}, a_{89}, a_{90}, a_{91}, a_{92}, a_{93}, a_{94}, a_{95}, a_{96}, a_{97}, a_{98}, a_{99}, a_{100}, a_{101}, a_{102}, a_{103}, a_{104}, a_{105}, a_{106}, a_{107}, a_{108}, a_{109}, a_{110}, a_{111}, a_{112}, a_{113}, a_{114}, a_{115}, a_{116}, a_{117}, a_{118}, a_{119}, a_{120}, a_{121}, a_{122}, a_{123}, a_{124}, a_{125}, a_{126}, a_{127}, a_{128}, a_{129}, a_{130}, a_{131}, a_{132}, a_{133}, a_{134}, a_{135}, a_{136}, a_{137}, a_{138}, a_{139}, a_{140}, a_{141}, a_{142}, a_{143}, a_{144}, a_{145}, a_{146}, a_{147}, a_{148}, a_{149}, a_{150}, a_{151}, a_{152}, a_{153}, a_{154}, a_{155}, a_{156}, a_{157}, a_{158}, a_{159}, a_{160}, a_{161}, a_{162}, a_{163}, a_{164}, a_{165}, a_{166}, a_{167}, a_{168}, a_{169}, a_{170}, a_{171}, a_{172}, a_{173}, a_{174}, a_{175}, a_{176}, a_{177}, a_{178}, a_{179}, a_{180}, a_{181}, a_{182}, a_{183}, a_{184}, a_{185}, a_{186}, a_{187}, a_{188}, a_{189}, a_{190}, a_{191}, a_{192}, a_{193}, a_{194}, a_{195}, a_{196}, a_{197}, a_{198}, a_{199}, a_{200}, a_{201}, a_{202}, a_{203}, a_{204}, a_{205}, a_{206}, a_{207}, a_{208}, a_{209}, a_{210}, a_{211}, a_{212}, a_{213}, a_{214}, a_{215}, a_{216}, a_{217}, a_{218}, a_{219}, a_{220}, a_{221}, a_{222}, a_{223}, a_{224}, a_{225}, a_{226}, a_{227}, a_{228}, a_{229}, a_{230}, a_{231}, a_{232}, a_{233}, a_{234}, a_{235}, a_{236}, a_{237}, a_{238}, a_{239}, a_{240}, a_{241}, a_{242}, a_{243}, a_{244}, a_{245}, a_{246}, a_{247}, a_{248}, a_{249}, a_{250}, a_{251}, a_{252}, a_{253}, a_{254}, a_{255}, a_{256}, a_{257}, a_{258}, a_{259}, a_{260}, a_{261}, a_{262}, a_{263}, a_{264}, a_{265}, a_{266}, a_{267}, a_{268}, a_{269}, a_{270}, a_{271}, a_{272}, a_{273}, a_{274}, a_{275}, a_{276}, a_{277}, a_{278}, a_{279}, a_{280}, a_{281}, a_{282}, a_{283}, a_{284}, a_{285}, a_{286}, a_{287}, a_{288}, a_{289}, a_{290}, a_{291}, a_{292}, a_{293}, a_{294}, a_{295}, a_{296}, a_{297}, a_{298}, a_{299}, a_{300}, a_{301}, a_{302}, a_{303}, a_{304}, a_{305}, a_{306}, a_{307}, a_{308}, a_{309}, a_{310}, a_{311}, a_{312}, a_{313}, a_{314}, a_{315}, a_{316}, a_{317}, a_{318}, a_{319}, a_{320}, a_{321}, a_{322}, a_{323}, a_{324}, a_{325}, a_{326}, a_{327}, a_{328}, a_{329}, a_{330}, a_{331}, a_{332}, a_{333}, a_{334}, a_{335}, a_{336}, a_{337}, a_{338}, a_{339}, a_{340}, a_{341}, a_{342}, a_{343}, a_{344}, a_{345}, a_{346}, a_{347}, a_{348}, a_{349}, a_{350}, a_{351}, a_{352}, a_{353}, a_{354}, a_{355}, a_{356}, a_{357}, a_{358}, a_{359}, a_{360}, a_{361}, a_{362}, a_{363}, a_{364}, a_{365}, a_{366}, a_{367}, a_{368}, a_{369}, a_{370}, a_{371}, a_{372}, a_{373}, a_{374}, a_{375}, a_{376}, a_{377}, a_{378}, a_{379}, a_{380}, a_{381}, a_{382}, a_{383}, a_{384}, a_{385}, a_{386}, a_{387}, a_{388}, a_{389}, a_{390}, a_{391}, a_{392}, a_{393}, a_{394}, a_{395}, a_{396}, a_{397}, a_{398}, a_{399}, a_{400}, a_{401}, a_{402}, a_{403}, a_{404}, a_{405}, a_{406}, a_{407}, a_{408}, a_{409}, a_{410}, a_{411}, a_{412}, a_{413}, a_{414}, a_{415}, a_{416}, a_{417}, a_{418}, a_{419}, a_{420}, a_{421}, a_{422}, a_{423}, a_{424}, a_{425}, a_{426}, a_{427}, a_{428}, a_{429}, a_{430}, a_{431}, a_{432}, a_{433}, a_{434}, a_{435}, a_{436}, a_{437}, a_{438}, a_{439}, a_{440}, a_{441}, a_{442}, a_{443}, a_{444}, a_{445}, a_{446}, a_{447}, a_{448}, a_{449}, a_{450}, a_{451}, a_{452}, a_{453}, a_{454}, a_{455}, a_{456}, a_{457}, a_{458}, a_{459}, a_{460}, a_{461}, a_{462}, a_{463}, a_{464}, a_{465}, a_{466}, a_{467}, a_{468}, a_{469}, a_{470}, a_{471}, a_{472}, a_{473}, a_{474}, a_{475}, a_{476}, a_{477}, a_{478}, a_{479}, a_{480}, a_{481}, a_{482}, a_{483}, a_{484}, a_{485}, a_{486}, a_{487}, a_{488}, a_{489}, a_{490}, a_{491}, a_{492}, a_{493}, a_{494}, a_{495}, a_{496}, a_{497}, a_{498}, a_{499}, a_{500}, a_{501}, a_{502}, a_{503}, a_{504}, a_{505}, a_{506}, a_{507}, a_{508}, a_{509}, a_{510}, a_{511}, a_{512}, a_{513}, a_{514}, a_{515}, a_{516}, a_{517}, a_{518}, a_{519}, a_{520}, a_{521}, a_{522}, a_{523}, a_{524}, a_{525}, a_{526}, a_{527}, a_{528}, a_{529}, a_{530}, a_{531}, a_{532}, a_{533}, a_{534}, a_{535}, a_{536}, a_{537}, a_{538}, a_{539}, a_{540}, a_{541}, a_{542}, a_{543}, a_{544}, a_{545}, a_{546}, a_{547}, a_{548}, a_{549}, a_{550}, a_{551}, a_{552}, a_{553}, a_{554}, a_{555}, a_{556}, a_{557}, a_{558}, a_{559}, a_{560}, a_{561}, a_{562}, a_{563}, a_{564}, a_{565}, a_{566}, a_{567}, a_{568}, a_{569}, a_{570}, a_{571}, a_{572}, a_{573}, a_{574}, a_{575}, a_{576}, a_{577}, a_{578}, a_{579}, a_{580}, a_{581}, a_{582}, a_{583}, a_{584}, a_{585}, a_{586}, a_{587}, a_{588}, a_{589}, a_{590}, a_{591}, a_{592}, a_{593}, a_{594}, a_{595}, a_{596}, a_{597}, a_{598}, a_{599}, a_{600}, a_{601}, a_{602}, a_{603}, a_{604}, a_{605}, a_{606}, a_{607}, a_{608}, a_{609}, a_{610}, a_{611}, a_{612}, a_{613}, a_{614}, a_{615}, a_{616}, a_{617}, a_{618}, a_{619}, a_{620}, a_{621}, a_{622}, a_{623}, a_{624}, a_{625}, a_{626}, a_{627}, a_{628}, a_{629}, a_{630}, a_{631}, a_{632}, a_{633}, a_{634}, a_{635}, a_{636}, a_{637}, a_{638}, a_{639}, a_{640}, a_{641}, a_{642}, a_{643}, a_{644}, a_{645}, a_{646}, a_{647}, a_{648}, a_{649}, a_{650}, a_{651}, a_{652}, a_{653}, a_{654}, a_{655}, a_{656}, a_{657}, a_{658}, a_{659}, a_{660}, a_{661}, a_{662}, a_{663}, a_{664}, a_{665}, a_{666}, a_{667}, a_{668}, a_{669}, a_{670}, a_{671}, a_{672}, a_{673}, a_{674}, a_{675}, a_{676}, a_{677}, a_{678}, a_{679}, a_{680}, a_{681}, a_{682}, a_{683}, a_{684}, a_{685}, a_{686}, a_{687}, a_{688}, a_{689}, a_{690}, a_{691}, a_{692}, a_{693}, a_{694}, a_{695}, a_{696}, a_{697}, a_{698}, a_{699}, a_{700}, a_{701}, a_{702}, a_{703}, a_{704}, a_{705}, a_{706}, a_{707}, a_{708}, a_{709}, a_{710}, a_{711}, a_{712}, a_{713}, a_{714}, a_{715}, a_{716}, a_{717}, a_{718}, a_{719}, a_{720}, a_{721}, a_{722}, a_{723}, a_{724}, a_{725}, a_{726}, a_{727}, a_{728}, a_{729}, a_{730}, a_{731}, a_{732}, a_{733}, a_{734}, a_{735}, a_{736}, a_{737}, a_{738}, a_{739}, a_{740}, a_{741}, a_{742}, a_{743}, a_{744}, a_{745}, a_{746}, a_{747}, a_{748}, a_{749}, a_{750}, a_{751}, a_{752}, a_{753}, a_{754}, a_{755}, a_{756}, a_{757}, a_{758}, a_{759}, a_{760}, a_{761}, a_{762}, a_{763}, a_{764}, a_{765}, a_{766}, a_{767}, a_{768}, a_{769}, a_{770}, a_{771}, a_{772}, a_{773}, a_{774}, a_{775}, a_{776}, a_{777}, a_{778}, a_{779}, a_{780}, a_{781}, a_{782}, a_{783}, a_{784}, a_{785}, a_{786}, a_{787}, a_{788}, a_{789}, a_{790}, a_{791}, a_{792}, a_{793}, a_{794}, a_{795}, a_{796}, a_{797}, a_{798}, a_{799}, a_{800}, a_{801}, a_{802}, a_{803}, a_{804}, a_{805}, a_{806}, a_{807}, a_{808}, a_{809}, a_{810}, a_{811}, a_{812}, a_{813}, a_{814}, a_{815}, a_{816}, a_{817}, a_{818}, a_{819}, a_{820}, a_{821}, a_{822}, a_{823}, a_{824}, a_{825}, a_{826}, a_{827}, a_{828}, a_{829}, a_{830}, a_{831}, a_{832}, a_{833}, a_{834}, a_{835}, a_{836}, a_{837}, a_{838}, a_{839}, a_{840}, a_{841}, a_{842}, a_{843}, a_{844}, a_{845}, a_{846}, a_{847}, a_{848}, a_{849}, a_{850}, a_{851}, a_{852}, a_{853}, a_{854}, a_{855}, a_{856}, a_{857}, a_{858}, a_{859}, a_{860}, a_{861}, a_{862}, a_{863}, a_{864}, a_{865}, a_{866}, a_{867}, a_{868}, a_{869}, a_{870}, a_{871}, a_{872}, a_{873}, a_{874}, a_{875}, a_{876}, a_{877}, a_{878}, a_{879}, a_{880}, a_{881}, a_{882}, a_{883}, a_{884}, a_{885}, a_{886}, a_{887}, a_{888}, a_{889}, a_{890}, a_{891}, a_{892}, a_{893}, a_{894}, a_{895}, a_{896}, a_{897}, a_{898}, a_{899}, a_{900}, a_{901}, a_{902}, a_{903}, a_{904}, a_{905}, a_{906}, a_{907}, a_{908}, a_{909}, a_{910}, a_{911}, a_{912}, a_{913}, a_{914}, a_{915}, a_{916}, a_{917}, a_{918}, a_{919}, a_{920}, a_{921}, a_{922}, a_{923}, a_{924}, a_{925}, a_{926}, a_{927}, a_{928}, a_{929}, a_{930}, a_{931}, a_{932}, a_{933}, a_{934}, a_{935}, a_{936}, a_{937}, a_{938}, a_{939}, a_{940}, a_{941}, a_{942}, a_{943}, a_{944}, a_{945}, a_{946}, a_{947}, a_{948}, a_{949}, a_{950}, a_{951}, a_{952}, a_{953}, a_{954}, a_{955}, a_{956}, a_{957}, a_{958}, a_{959}, a_{960}, a_{961}, a_{962}, a_{963}, a_{964}, a_{965}, a_{966}, a_{967}, a_{968}, a_{969}, a_{970}, a_{971}, a_{972}, a_{973}, a_{974}, a_{975}, a_{976}, a_{977}, a_{978}, a_{979}, a_{980}, a_{981}, a_{982}, a_{983}, a_{984}, a_{985}, a_{986}, a_{987}, a_{988}, a_{989}, a_{990}, a_{991}, a_{992}, a_{993}, a_{994}, a_{995}, a_{996}, a_{997}, a_{998}, a_{999}, a_{1000}$

$a_1 = -2(0) + 4 = 4$ ✓

$a_2 = -2(1) + 4 = 2$ ✓

$S_{11} = 2 \cdot 2 \cdot 14 = 56$

$n = 2 = 3(0) + 2 \Rightarrow k = 0$

$a_3 = 2 \cdot 2 = 4$ ✓

$a_2 = \left[\frac{2}{1+2} \right] + a = 1 + a$ ✓

$a_4 = 2 \cdot 2 = 4$ ✓

$S_{29} = 1022 + (-50) + 1 = 973$

$n = 3 = 3(1) = k = 1$

$a_5 = \left[\frac{1}{1+2} \right] + a = 2 + a$ ✓

$a_a = 14$ ضریب $a = \frac{-a_5}{V} = \frac{-14}{V} = -12$

$\begin{cases} aB + C = 14 \\ V B + C = 2V \end{cases} \Rightarrow \begin{cases} B = 4 \\ C = -1 \end{cases}$

$n = 4 \Rightarrow 4a + 5B + C = 14 \xrightarrow{a=-12} 5B + C = 14$

$a_1 = A_1^2 + B_1^2 + C =$

$n = 5 \Rightarrow 5a + 7B + C = 14 \xrightarrow{a=-12} 7B + C = 74$

$a + B + C = -12 + 4 - 1 = -9$

$-918 + 7B + C = 74 \xrightarrow{B=4} 7B + C = 74$

$7B + C = 74$

$a_5 = 225A + 15B + C = 225(-12) + 15(4) - 1 = -2700 + 60 - 1 = -2641$

$A \in, A_n \rightarrow$ دنباله حسابی $\Rightarrow d = \frac{A_n - A_{n-1}}{n - (n-1)} = \frac{A_n - A_{n-1}}{1} = A_n - A_{n-1} = d$

$u_r, u_v \rightarrow$ الگوی خطی

$u_{10} = 15n - 10n = 5n$

$\rightarrow an + d \rightarrow r_n + d$
 $v_n + d$

$u_{10} = u_v - u_r$

$u_v - u_r = 5n$

$n = \frac{u_v - u_r}{5}$

$\frac{u_{10}}{d} = \frac{u_v - u_r}{A_n - A_{n-1}} = \frac{5(u_v - u_r)}{A_n - A_{n-1}}$

جواب نهایی؟

$u_{10} = 10M + d = 0 \Rightarrow d = -10n$

$$a_1 = a \quad a_r = a + d \quad a_r = a + rd \Rightarrow a = a + rd$$

$$4a^r = \omega a^r a + \kappa a^r a$$

$$4(a+d)^r = \omega(a+rd)a + \kappa(a+d)a$$

$$4a^r + 4rad + 4d^r = \omega a^r + \omega rd + \kappa a^r + \kappa ad$$

$$4a^r + 4rad + 4d^r = \omega a^r + \omega rd + \kappa a^r + \kappa ad$$

$$4a^r + 4ad - 4d^r = 0 \quad \frac{a}{d} = u \rightarrow 4u^r + u - 4 = 0$$

$$\frac{ar}{d} = \frac{u}{d} + \kappa = u + \kappa$$

$$x = \frac{\kappa}{r} \Rightarrow \frac{\kappa}{r} + \kappa = \frac{q}{r} \Rightarrow d$$

$$u = -r \Rightarrow -r + \kappa = 1 \Rightarrow d$$

$$\Delta = b^r - 4ac = 1 + 4\kappa = 4\kappa$$

$$u = \frac{-b \pm \sqrt{\Delta}}{2a} = \frac{-r \pm \sqrt{4\kappa}}{2} = \frac{-r \pm 2\sqrt{\kappa}}{2}$$

$$\frac{\frac{a}{r}}{b} = \frac{\frac{c}{a}}{\frac{a}{r}} \Rightarrow a^r = bc \Rightarrow a^r = (a+d)(a+rd) = a^r + \kappa ad + rd^r$$

$$\kappa ad + rd^r = 0 \quad d(\kappa a + rd) = 0$$

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

و صوابه 1/1
صوابه اوله 1/1

$$r = -r \leftarrow r = \frac{a}{b} = \frac{d}{r} \leftarrow b = a + d = \frac{d}{r} \leftarrow \kappa a + rd = 0 \rightarrow a = -\frac{rd}{\kappa} \leftarrow d \neq 0 \text{ صوابه}$$

$$b = aq \quad c = aq^r$$

$$ra - \kappa b = c - ra$$

$$ra - \kappa(aq) = aq^r - ra$$

$$\kappa = \kappa a^r + q^r \rightarrow a^r + \kappa q - \kappa = 0$$

$$(q + \kappa)(q - 1) = 0 \Rightarrow q = 1, q = -\kappa$$

$$\frac{Tq}{T_4} = a^r \rightarrow q = -\kappa = -(-\kappa) = \kappa$$

$$\rightarrow q = 1 \Rightarrow (1)^{\kappa} = 1 \times$$

صوابه 1/1
صوابه 1/1

$$\frac{aq^{\omega}}{(aq)^r} + \frac{aq}{(a_1)^r} = \frac{a^r}{a^r} + \frac{a}{a} = r$$

$$u = \frac{q}{a} \rightarrow u^r = \frac{q^r}{a^r} \rightarrow u^r + u - r = 0 \quad (u + r)(u - 1) = 0 \Rightarrow u = 1$$

$$u = -r \quad u = \frac{r}{a} \quad q = a \quad q = -ra$$

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

$$a_1 = a \quad a_n = aq^{n-1}$$

$$a_n = rV$$

$$a^r = \sqrt{a^r}$$

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

$$a^r = \sqrt{a^r} \rightarrow (a^r)^r = (\sqrt{a^r})^r \quad a_n = \frac{1}{q} \times q^r = rV \rightarrow a^r = rV \rightarrow a^r$$

$$\rightarrow a^r q^r = aq^r$$

$$a = \frac{1}{q} = \frac{1}{\kappa}$$

$$a \neq 0$$

$$aq^r = q^r \Rightarrow a = \frac{1}{q}$$

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

ضابطه اول $a_0, a_3, a_4, a_9 \rightarrow$

ضابطه دوم $a_1, a_4, a_7 \rightarrow$

ضابطه سوم $a_2, a_5, a_8 \rightarrow$

$$S_{10} = 1 + 4 + (1+a) + 2 + (1+a) + 4 + 0 + (2+a) + 8 = 19 \rightarrow a = -2$$

جمع جملات خواسته شده از ضابطه سوم به دست میاد :

$$a_n = \left\lfloor \frac{n}{K+2} \right\rfloor - 2 \xrightarrow{n=3K+2} \left\lfloor \frac{3K+2}{K+2} \right\rfloor - 2 = \left(\text{مید ببریم} \right) \left\lfloor 2 + \frac{K-2}{K+2} \right\rfloor - 2 = \left\lfloor \frac{K-2}{K+2} \right\rfloor$$

این عبارت به ازای $K=0$ برابر ۱- و به ازای بقیه اعداد صحفه پس جواب خواسته شده ۲-.

$$a_4 = b_2 \rightarrow a_1 + 3d = b_2$$

$$a_8 = b_7 \rightarrow a_1 + 7d = b_7 \rightarrow b_7 - b_2 = 5d$$

$$\xrightarrow{\text{حفظی}} b_n = Cn + K$$

$$b_7 - b_2 = 7C + K - (2C + K) = 5C$$

$$5d = 5C$$

دنباله حسابری a
نسوی خطری b

$$b_{10} = 0 \rightarrow 10C + K = 0 \rightarrow K = -10C$$

$$\frac{b_{10}}{d} = \frac{10C + \overset{-10C}{K}}{\frac{5}{1}C} = 4$$