

نام و نام خانوادگی: پاسخنامه تشریحی شماره ۱۷۰... کلاس: ریاضیات پایه

$\{3, 2, 3, 4, 3, 5, 4, 7, 8, 9, 3, 10, \dots\}$
 $9 \rightarrow 9^2 = 81$
 $10 \rightarrow 10^2 = 100$
 $11 \rightarrow 11^2 = 121$
 $12 \rightarrow 12^2 = 144$
 $13 \rightarrow 13^2 = 169$
 $14 \rightarrow 14^2 = 196$
 $15 \rightarrow 15^2 = 225$
 $16 \rightarrow 16^2 = 256$
 $17 \rightarrow 17^2 = 289$
 $18 \rightarrow 18^2 = 324$
 $19 \rightarrow 19^2 = 361$
 $20 \rightarrow 20^2 = 400$
 $21 \rightarrow 21^2 = 441$
 $22 \rightarrow 22^2 = 484$
 $23 \rightarrow 23^2 = 529$
 $24 \rightarrow 24^2 = 576$
 $25 \rightarrow 25^2 = 625$
 $26 \rightarrow 26^2 = 676$
 $27 \rightarrow 27^2 = 729$
 $28 \rightarrow 28^2 = 784$
 $29 \rightarrow 29^2 = 841$
 $30 \rightarrow 30^2 = 900$
 $31 \rightarrow 31^2 = 961$
 $32 \rightarrow 32^2 = 1024$
 $33 \rightarrow 33^2 = 1089$
 $34 \rightarrow 34^2 = 1156$
 $35 \rightarrow 35^2 = 1225$
 $36 \rightarrow 36^2 = 1296$
 $37 \rightarrow 37^2 = 1369$
 $38 \rightarrow 38^2 = 1444$
 $39 \rightarrow 39^2 = 1521$
 $40 \rightarrow 40^2 = 1600$
 $41 \rightarrow 41^2 = 1681$
 $42 \rightarrow 42^2 = 1764$
 $43 \rightarrow 43^2 = 1849$
 $44 \rightarrow 44^2 = 1936$
 $45 \rightarrow 45^2 = 2025$
 $46 \rightarrow 46^2 = 2116$
 $47 \rightarrow 47^2 = 2209$
 $48 \rightarrow 48^2 = 2304$
 $49 \rightarrow 49^2 = 2401$
 $50 \rightarrow 50^2 = 2500$
 $51 \rightarrow 51^2 = 2601$
 $52 \rightarrow 52^2 = 2704$
 $53 \rightarrow 53^2 = 2809$
 $54 \rightarrow 54^2 = 2916$
 $55 \rightarrow 55^2 = 3025$
 $56 \rightarrow 56^2 = 3136$
 $57 \rightarrow 57^2 = 3249$
 $58 \rightarrow 58^2 = 3364$
 $59 \rightarrow 59^2 = 3481$
 $60 \rightarrow 60^2 = 3600$
 $61 \rightarrow 61^2 = 3721$
 $62 \rightarrow 62^2 = 3844$
 $63 \rightarrow 63^2 = 3969$
 $64 \rightarrow 64^2 = 4096$
 $65 \rightarrow 65^2 = 4225$
 $66 \rightarrow 66^2 = 4356$
 $67 \rightarrow 67^2 = 4489$
 $68 \rightarrow 68^2 = 4624$
 $69 \rightarrow 69^2 = 4761$
 $70 \rightarrow 70^2 = 4900$
 $71 \rightarrow 71^2 = 5041$
 $72 \rightarrow 72^2 = 5184$
 $73 \rightarrow 73^2 = 5329$
 $74 \rightarrow 74^2 = 5476$
 $75 \rightarrow 75^2 = 5625$
 $76 \rightarrow 76^2 = 5776$
 $77 \rightarrow 77^2 = 5929$
 $78 \rightarrow 78^2 = 6084$
 $79 \rightarrow 79^2 = 6241$
 $80 \rightarrow 80^2 = 6400$
 $81 \rightarrow 81^2 = 6561$
 $82 \rightarrow 82^2 = 6724$
 $83 \rightarrow 83^2 = 6889$
 $84 \rightarrow 84^2 = 7056$
 $85 \rightarrow 85^2 = 7225$
 $86 \rightarrow 86^2 = 7396$
 $87 \rightarrow 87^2 = 7569$
 $88 \rightarrow 88^2 = 7744$
 $89 \rightarrow 89^2 = 7921$
 $90 \rightarrow 90^2 = 8100$
 $91 \rightarrow 91^2 = 8281$
 $92 \rightarrow 92^2 = 8464$
 $93 \rightarrow 93^2 = 8649$
 $94 \rightarrow 94^2 = 8836$
 $95 \rightarrow 95^2 = 9025$
 $96 \rightarrow 96^2 = 9216$
 $97 \rightarrow 97^2 = 9409$
 $98 \rightarrow 98^2 = 9616$
 $99 \rightarrow 99^2 = 9801$
 $100 \rightarrow 100^2 = 10000$

$(1, 2, 3) (4, 5, 6, 7, 8, 9, 10, 11, 12)$
 $1 \rightarrow 1^2 = 1$
 $2 \rightarrow 2^2 = 4$
 $3 \rightarrow 3^2 = 9$
 $4 \rightarrow 4^2 = 16$
 $5 \rightarrow 5^2 = 25$
 $6 \rightarrow 6^2 = 36$
 $7 \rightarrow 7^2 = 49$
 $8 \rightarrow 8^2 = 64$
 $9 \rightarrow 9^2 = 81$
 $10 \rightarrow 10^2 = 100$
 $11 \rightarrow 11^2 = 121$
 $12 \rightarrow 12^2 = 144$
 $13 \rightarrow 13^2 = 169$
 $14 \rightarrow 14^2 = 196$
 $15 \rightarrow 15^2 = 225$
 $16 \rightarrow 16^2 = 256$
 $17 \rightarrow 17^2 = 289$
 $18 \rightarrow 18^2 = 324$
 $19 \rightarrow 19^2 = 361$
 $20 \rightarrow 20^2 = 400$
 $21 \rightarrow 21^2 = 441$
 $22 \rightarrow 22^2 = 484$
 $23 \rightarrow 23^2 = 529$
 $24 \rightarrow 24^2 = 576$
 $25 \rightarrow 25^2 = 625$
 $26 \rightarrow 26^2 = 676$
 $27 \rightarrow 27^2 = 729$
 $28 \rightarrow 28^2 = 784$
 $29 \rightarrow 29^2 = 841$
 $30 \rightarrow 30^2 = 900$
 $31 \rightarrow 31^2 = 961$
 $32 \rightarrow 32^2 = 1024$
 $33 \rightarrow 33^2 = 1089$
 $34 \rightarrow 34^2 = 1156$
 $35 \rightarrow 35^2 = 1225$
 $36 \rightarrow 36^2 = 1296$
 $37 \rightarrow 37^2 = 1369$
 $38 \rightarrow 38^2 = 1444$
 $39 \rightarrow 39^2 = 1521$
 $40 \rightarrow 40^2 = 1600$
 $41 \rightarrow 41^2 = 1681$
 $42 \rightarrow 42^2 = 1764$
 $43 \rightarrow 43^2 = 1849$
 $44 \rightarrow 44^2 = 1936$
 $45 \rightarrow 45^2 = 2025$
 $46 \rightarrow 46^2 = 2116$
 $47 \rightarrow 47^2 = 2209$
 $48 \rightarrow 48^2 = 2304$
 $49 \rightarrow 49^2 = 2401$
 $50 \rightarrow 50^2 = 2500$
 $51 \rightarrow 51^2 = 2601$
 $52 \rightarrow 52^2 = 2704$
 $53 \rightarrow 53^2 = 2809$
 $54 \rightarrow 54^2 = 2916$
 $55 \rightarrow 55^2 = 3025$
 $56 \rightarrow 56^2 = 3136$
 $57 \rightarrow 57^2 = 3249$
 $58 \rightarrow 58^2 = 3364$
 $59 \rightarrow 59^2 = 3481$
 $60 \rightarrow 60^2 = 3600$
 $61 \rightarrow 61^2 = 3721$
 $62 \rightarrow 62^2 = 3844$
 $63 \rightarrow 63^2 = 3969$
 $64 \rightarrow 64^2 = 4096$
 $65 \rightarrow 65^2 = 4225$
 $66 \rightarrow 66^2 = 4356$
 $67 \rightarrow 67^2 = 4489$
 $68 \rightarrow 68^2 = 4624$
 $69 \rightarrow 69^2 = 4761$
 $70 \rightarrow 70^2 = 4900$
 $71 \rightarrow 71^2 = 5041$
 $72 \rightarrow 72^2 = 5184$
 $73 \rightarrow 73^2 = 5329$
 $74 \rightarrow 74^2 = 5476$
 $75 \rightarrow 75^2 = 5625$
 $76 \rightarrow 76^2 = 5776$
 $77 \rightarrow 77^2 = 5929$
 $78 \rightarrow 78^2 = 6084$
 $79 \rightarrow 79^2 = 6241$
 $80 \rightarrow 80^2 = 6400$
 $81 \rightarrow 81^2 = 6561$
 $82 \rightarrow 82^2 = 6724$
 $83 \rightarrow 83^2 = 6889$
 $84 \rightarrow 84^2 = 7056$
 $85 \rightarrow 85^2 = 7225$
 $86 \rightarrow 86^2 = 7396$
 $87 \rightarrow 87^2 = 7569$
 $88 \rightarrow 88^2 = 7744$
 $89 \rightarrow 89^2 = 7921$
 $90 \rightarrow 90^2 = 8100$
 $91 \rightarrow 91^2 = 8281$
 $92 \rightarrow 92^2 = 8464$
 $93 \rightarrow 93^2 = 8649$
 $94 \rightarrow 94^2 = 8836$
 $95 \rightarrow 95^2 = 9025$
 $96 \rightarrow 96^2 = 9216$
 $97 \rightarrow 97^2 = 9409$
 $98 \rightarrow 98^2 = 9616$
 $99 \rightarrow 99^2 = 9801$
 $100 \rightarrow 100^2 = 10000$

$a_0 + a_1 + \dots + a_n = 10$
 $a_0 = 1, a_1 = 2, a_2 = 3, a_3 = 4, a_4 = 5, a_5 = 6, a_6 = 7, a_7 = 8, a_8 = 9, a_9 = 10$
 $a_{10} = 11, a_{11} = 12, a_{12} = 13, a_{13} = 14, a_{14} = 15, a_{15} = 16, a_{16} = 17, a_{17} = 18, a_{18} = 19, a_{19} = 20$
 $a_{20} = 21, a_{21} = 22, a_{22} = 23, a_{23} = 24, a_{24} = 25, a_{25} = 26, a_{26} = 27, a_{27} = 28, a_{28} = 29, a_{29} = 30$
 $a_{30} = 31, a_{31} = 32, a_{32} = 33, a_{33} = 34, a_{34} = 35, a_{35} = 36, a_{36} = 37, a_{37} = 38, a_{38} = 39, a_{39} = 40$
 $a_{40} = 41, a_{41} = 42, a_{42} = 43, a_{43} = 44, a_{44} = 45, a_{45} = 46, a_{46} = 47, a_{47} = 48, a_{48} = 49, a_{49} = 50$
 $a_{50} = 51, a_{51} = 52, a_{52} = 53, a_{53} = 54, a_{54} = 55, a_{55} = 56, a_{56} = 57, a_{57} = 58, a_{58} = 59, a_{59} = 60$
 $a_{60} = 61, a_{61} = 62, a_{62} = 63, a_{63} = 64, a_{64} = 65, a_{65} = 66, a_{66} = 67, a_{67} = 68, a_{68} = 69, a_{69} = 70$
 $a_{70} = 71, a_{71} = 72, a_{72} = 73, a_{73} = 74, a_{74} = 75, a_{75} = 76, a_{76} = 77, a_{77} = 78, a_{78} = 79, a_{79} = 80$
 $a_{80} = 81, a_{81} = 82, a_{82} = 83, a_{83} = 84, a_{84} = 85, a_{85} = 86, a_{86} = 87, a_{87} = 88, a_{88} = 89, a_{89} = 90$
 $a_{90} = 91, a_{91} = 92, a_{92} = 93, a_{93} = 94, a_{94} = 95, a_{95} = 96, a_{96} = 97, a_{97} = 98, a_{98} = 99, a_{99} = 100$
 $a_{100} = 101, a_{101} = 102, a_{102} = 103, a_{103} = 104, a_{104} = 105, a_{105} = 106, a_{106} = 107, a_{107} = 108, a_{108} = 109, a_{109} = 110$
 $a_{110} = 111, a_{111} = 112, a_{112} = 113, a_{113} = 114, a_{114} = 115, a_{115} = 116, a_{116} = 117, a_{117} = 118, a_{118} = 119, a_{119} = 120$
 $a_{120} = 121, a_{121} = 122, a_{122} = 123, a_{123} = 124, a_{124} = 125, a_{125} = 126, a_{126} = 127, a_{127} = 128, a_{128} = 129, a_{129} = 130$
 $a_{130} = 131, a_{131} = 132, a_{132} = 133, a_{133} = 134, a_{134} = 135, a_{135} = 136, a_{136} = 137, a_{137} = 138, a_{138} = 139, a_{139} = 140$
 $a_{140} = 141, a_{141} = 142, a_{142} = 143, a_{143} = 144, a_{144} = 145, a_{145} = 146, a_{146} = 147, a_{147} = 148, a_{148} = 149, a_{149} = 150$
 $a_{150} = 151, a_{151} = 152, a_{152} = 153, a_{153} = 154, a_{154} = 155, a_{155} = 156, a_{156} = 157, a_{157} = 158, a_{158} = 159, a_{159} = 160$
 $a_{160} = 161, a_{161} = 162, a_{162} = 163, a_{163} = 164, a_{164} = 165, a_{165} = 166, a_{166} = 167, a_{167} = 168, a_{168} = 169, a_{169} = 170$
 $a_{170} = 171, a_{171} = 172, a_{172} = 173, a_{173} = 174, a_{174} = 175, a_{175} = 176, a_{176} = 177, a_{177} = 178, a_{178} = 179, a_{179} = 180$
 $a_{180} = 181, a_{181} = 182, a_{182} = 183, a_{183} = 184, a_{184} = 185, a_{185} = 186, a_{186} = 187, a_{187} = 188, a_{188} = 189, a_{189} = 190$
 $a_{190} = 191, a_{191} = 192, a_{192} = 193, a_{193} = 194, a_{194} = 195, a_{195} = 196, a_{196} = 197, a_{197} = 198, a_{198} = 199, a_{199} = 200$
 $a_{200} = 201, a_{201} = 202, a_{202} = 203, a_{203} = 204, a_{204} = 205, a_{205} = 206, a_{206} = 207, a_{207} = 208, a_{208} = 209, a_{209} = 210$
 $a_{210} = 211, a_{211} = 212, a_{212} = 213, a_{213} = 214, a_{214} = 215, a_{215} = 216, a_{216} = 217, a_{217} = 218, a_{218} = 219, a_{219} = 220$
 $a_{220} = 221, a_{221} = 222, a_{222} = 223, a_{223} = 224, a_{224} = 225, a_{225} = 226, a_{226} = 227, a_{227} = 228, a_{228} = 229, a_{229} = 230$
 $a_{230} = 231, a_{231} = 232, a_{232} = 233, a_{233} = 234, a_{234} = 235, a_{235} = 236, a_{236} = 237, a_{237} = 238, a_{238} = 239, a_{239} = 240$
 $a_{240} = 241, a_{241} = 242, a_{242} = 243, a_{243} = 244, a_{244} = 245, a_{245} = 246, a_{246} = 247, a_{247} = 248, a_{248} = 249, a_{249} = 250$
 $a_{250} = 251, a_{251} = 252, a_{252} = 253, a_{253} = 254, a_{254} = 255, a_{255} = 256, a_{256} = 257, a_{257} = 258, a_{258} = 259, a_{259} = 260$
 $a_{260} = 261, a_{261} = 262, a_{262} = 263, a_{263} = 264, a_{264} = 265, a_{265} = 266, a_{266} = 267, a_{267} = 268, a_{268} = 269, a_{269} = 270$
 $a_{270} = 271, a_{271} = 272, a_{272} = 273, a_{273} = 274, a_{274} = 275, a_{275} = 276, a_{276} = 277, a_{277} = 278, a_{278} = 279, a_{279} = 280$
 $a_{280} = 281, a_{281} = 282, a_{282} = 283, a_{283} = 284, a_{284} = 285, a_{285} = 286, a_{286} = 287, a_{287} = 288, a_{288} = 289, a_{289} = 290$
 $a_{290} = 291, a_{291} = 292, a_{292} = 293, a_{293} = 294, a_{294} = 295, a_{295} = 296, a_{296} = 297, a_{297} = 298, a_{298} = 299, a_{299} = 300$
 $a_{300} = 301, a_{301} = 302, a_{302} = 303, a_{303} = 304, a_{304} = 305, a_{305} = 306, a_{306} = 307, a_{307} = 308, a_{308} = 309, a_{309} = 310$
 $a_{310} = 311, a_{311} = 312, a_{312} = 313, a_{313} = 314, a_{314} = 315, a_{315} = 316, a_{316} = 317, a_{317} = 318, a_{318} = 319, a_{319} = 320$
 $a_{320} = 321, a_{321} = 322, a_{322} = 323, a_{323} = 324, a_{324} = 325, a_{325} = 326, a_{326} = 327, a_{327} = 328, a_{328} = 329, a_{329} = 330$
 $a_{330} = 331, a_{331} = 332, a_{332} = 333, a_{333} = 334, a_{334} = 335, a_{335} = 336, a_{336} = 337, a_{337} = 338, a_{338} = 339, a_{339} = 340$
 $a_{340} = 341, a_{341} = 342, a_{342} = 343, a_{343} = 344, a_{344} = 345, a_{345} = 346, a_{346} = 347, a_{347} = 348, a_{348} = 349, a_{349} = 350$
 $a_{350} = 351, a_{351} = 352, a_{352} = 353, a_{353} = 354, a_{354} = 355, a_{355} = 356, a_{356} = 357, a_{357} = 358, a_{358} = 359, a_{359} = 360$
 $a_{360} = 361, a_{361} = 362, a_{362} = 363, a_{363} = 364, a_{364} = 365, a_{365} = 366, a_{366} = 367, a_{367} = 368, a_{368} = 369, a_{369} = 370$
 $a_{370} = 371, a_{371} = 372, a_{372} = 373, a_{373} = 374, a_{374} = 375, a_{375} = 376, a_{376} = 377, a_{377} = 378, a_{378} = 379, a_{379} = 380$
 $a_{380} = 381, a_{381} = 382, a_{382} = 383, a_{383} = 384, a_{384} = 385, a_{385} = 386, a_{386} = 387, a_{387} = 388, a_{388} = 389, a_{389} = 390$
 $a_{390} = 391, a_{391} = 392, a_{392} = 393, a_{393} = 394, a_{394} = 395, a_{395} = 396, a_{396} = 397, a_{397} = 398, a_{398} = 399, a_{399} = 400$
 $a_{400} = 401, a_{401} = 402, a_{402} = 403, a_{403} = 404, a_{404} = 405, a_{405} = 406, a_{406} = 407, a_{407} = 408, a_{408} = 409, a_{409} = 410$
 $a_{410} = 411, a_{411} = 412, a_{412} = 413, a_{413} = 414, a_{414} = 415, a_{415} = 416, a_{416} = 417, a_{417} = 418, a_{418} = 419, a_{419} = 420$
 $a_{420} = 421, a_{421} = 422, a_{422} = 423, a_{423} = 424, a_{424} = 425, a_{425} = 426, a_{426} = 427, a_{427} = 428, a_{428} = 429, a_{429} = 430$
 $a_{430} = 431, a_{431} = 432, a_{432} = 433, a_{433} = 434, a_{434} = 435, a_{435} = 436, a_{436} = 437, a_{437} = 438, a_{438} = 439, a_{439} = 440$
 $a_{440} = 441, a_{441} = 442, a_{442} = 443, a_{443} = 444, a_{444} = 445, a_{445} = 446, a_{446} = 447, a_{447} = 448, a_{448} = 449, a_{449} = 450$
 $a_{450} = 451, a_{451} = 452, a_{452} = 453, a_{453} = 454, a_{454} = 455, a_{455} = 456, a_{456} = 457, a_{457} = 458, a_{458} = 459, a_{459} = 460$
 $a_{460} = 461, a_{461} = 462, a_{462} = 463, a_{463} = 464, a_{464} = 465, a_{465} = 466, a_{466} = 467, a_{467} = 468, a_{468} = 469, a_{469} = 470$
 $a_{470} = 471, a_{471} = 472, a_{472} = 473, a_{473} = 474, a_{474} = 475, a_{475} = 476, a_{476} = 477, a_{477} = 478, a_{478} = 479, a_{479} = 480$
 $a_{480} = 481, a_{481} = 482, a_{482} = 483, a_{483} = 484, a_{484} = 485, a_{485} = 486, a_{486} = 487, a_{487} = 488, a_{488} = 489, a_{489} = 490$
 $a_{490} = 491, a_{491} = 492, a_{492} = 493, a_{493} = 494, a_{494} = 495, a_{495} = 496, a_{496} = 497, a_{497} = 498, a_{498} = 499, a_{499} = 500$
 $a_{500} = 501, a_{501} = 502, a_{502} = 503, a_{503} = 504, a_{504} = 505, a_{505} = 506, a_{506} = 507, a_{507} = 508, a_{508} = 509, a_{509} = 510$
 $a_{510} = 511, a_{511} = 512, a_{512} = 513, a_{513} = 514, a_{514} = 515, a_{515} = 516, a_{516} = 517, a_{517} = 518, a_{518} = 519, a_{519} = 520$
 $a_{520} = 521, a_{521} = 522, a_{522} = 523, a_{523} = 524, a_{524} = 525, a_{525} = 526, a_{526} = 527, a_{527} = 528, a_{528} = 529, a_{529} = 530$
 $a_{530} = 531, a_{531} = 532, a_{532} = 533, a_{533} = 534, a_{534} = 535, a_{535} = 536, a_{536} = 537, a_{537} = 538, a_{538} = 539, a_{539} = 540$
 $a_{540} = 541, a_{541} = 542, a_{542} = 543, a_{543} = 544, a_{544} = 545, a_{545} = 546, a_{546} = 547, a_{547} = 548, a_{548} = 549, a_{549} = 550$
 $a_{550} = 551, a_{551} = 552, a_{552} = 553, a_{553} = 554, a_{554} = 555, a_{555} = 556, a_{556} = 557, a_{557} = 558, a_{558} = 559, a_{559} = 560$
 $a_{560} = 561, a_{561} = 562, a_{562} = 563, a_{563} = 564, a_{564} = 565, a_{565} = 566, a_{566} = 567, a_{567} = 568, a_{568} = 569, a_{569} = 570$
 $a_{570} = 571, a_{571} = 572, a_{572} = 573, a_{573} = 574, a_{574} = 575, a_{575} = 576, a_{576} = 577, a_{577} = 578, a_{578} = 579, a_{579} = 580$
 $a_{580} = 581, a_{581} = 582, a_{582} = 583, a_{583} = 584, a_{584} = 585, a_{585} = 586, a_{586} = 587, a_{587} = 588, a_{588} = 589, a_{589} = 590$
 $a_{590} = 591, a_{591} = 592, a_{592} = 593, a_{593} = 594, a_{594} = 595, a_{595} = 596, a_{596} = 597, a_{597} = 598, a_{598} = 599, a_{599} = 600$
 $a_{600} = 601, a_{601} = 602, a_{602} = 603, a_{603} = 604, a_{604} = 605, a_{605} = 606, a_{606} = 607, a_{607} = 608, a_{608} = 609, a_{609} = 610$
<

$$\begin{aligned}
 4ar^r &= \omega ar^a + r^r ara \Rightarrow 4(a+d)^r = \omega(a+rd)a + r^r(a+da) \\
 4(a^r+d^r+rd) &= \omega a^r + \omega da + r^r a^r + r^r ad \Rightarrow 4a^r + 4rd + 4d^r = \omega a^r + \omega da + r^r a^r + r^r ad \\
 \Rightarrow \omega a^r + \omega da - 4a^r - 4rd - 4d^r &= 0 \Rightarrow r a^r + ad - 4d^r = 0 \xrightarrow{d^r} r\left(\frac{a}{d}\right)^r + \frac{a}{d} - 4 = 0 \\
 \frac{a}{d} = x &\Rightarrow r x^r + x - 4 = 0 \Rightarrow \Delta = b^r - 4ac = 1 + 4r = 4r \Rightarrow \sqrt{\Delta} = 2 \\
 x &= \frac{-b \pm \sqrt{\Delta}}{ra} = \frac{-1 \pm 2}{r} = \left[x = \frac{1}{r}, -2 \right] \Rightarrow \frac{a}{d} = \frac{1}{r}, -2 \\
 \frac{ar}{d} &= \frac{a(1+rd)}{d} = \frac{a}{d} + r \Rightarrow \frac{1}{r} + r = \left[\frac{1}{r}, -2 \right] \quad -r + r = 1
 \end{aligned}$$

6

$$\begin{aligned}
 b &= \frac{a+c}{r} \rightarrow r b = a+c \\
 \frac{c}{r} &= \frac{r a}{r} \rightarrow c = r \times \frac{a}{r} = r a \\
 r\left(\frac{a}{r}\right) &= r b \rightarrow a = r b \rightarrow b = \frac{a}{r} \\
 * r\left(\frac{a}{r}\right) &= a + r a - \frac{a}{r} = a + r a \rightarrow r\left(\frac{1}{r}\right) = 1 + r \rightarrow 1 = r + r r \rightarrow r r + r - 1 = 0 \Rightarrow \Delta = b^r - 4ac = 9 \\
 r &= \frac{-1 \pm \sqrt{9}}{r} = \frac{-1 \pm 3}{r} \rightarrow r = \frac{1}{r}, -2 \xrightarrow{x^r} \left[\frac{1}{r}, -2 \right] \\
 a &= b \Rightarrow \text{لا يوجد حل}
 \end{aligned}$$

7

$$\begin{aligned}
 b &= ar \quad , \quad ra = \frac{rb+c}{r} \\
 c &= ar^r \quad , \quad ra = \frac{rb+c}{r} \\
 ra &= \frac{r ar + ar^r}{r} \rightarrow r = \frac{r(1+r^r)}{r} \rightarrow r = r + r^r \rightarrow r^r + r - r = 0 \rightarrow (r+r)(1-1) = 0 \\
 \frac{ar}{ar} &= \frac{ar^r}{ar^r} = r^r \rightarrow (-r)^r = -4r \\
 [r = -r / r = 1] &\rightarrow \text{حونا رتبة متساوية}
 \end{aligned}$$

8

$$\begin{aligned}
 \frac{ar}{(ar)^r} + \frac{ar}{(a)^r} &= r \rightarrow \frac{ar^{\omega}}{(ar)^r} + \frac{ar}{a^r} = r \rightarrow \frac{ar^{\omega}}{a^r r^r} + \frac{ar}{a^r} = r \\
 \frac{r^r}{a^r} + \frac{r}{a} &= r \xrightarrow{\frac{r}{a} = x} x^r + x = r \rightarrow x^r + x - r = 0 \rightarrow (x+r)(x-1) = 0 \rightarrow [x = -r] [x = 1] \\
 \frac{r}{a} &= -r / \frac{r}{a} = 1 \rightarrow \frac{ar}{ar} = \frac{a}{r} \rightarrow \left[1, -\frac{1}{r} \right]
 \end{aligned}$$

9

$$\begin{aligned}
 ar^r &= ar^r \quad ar^r = \sqrt{ar} \rightarrow (ar^r = \sqrt{ar^r})^r \rightarrow ar^r r^r = ar^r \rightarrow ar = 1 \rightarrow a = \frac{1}{r} \\
 ar^r &= ar^r \rightarrow \frac{1}{r} \times r^r = r^r = r \sqrt{r} \rightarrow [r = r] / [a = \frac{1}{r}] \\
 \frac{1}{r} - \frac{1}{r} &= \frac{r-r}{r} = \left[\frac{1}{r} \right]
 \end{aligned}$$

10