

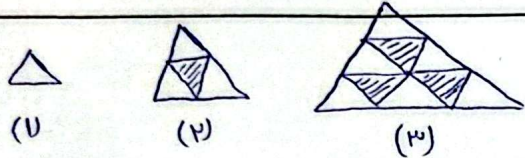
نام و نام خانوادگی باجهان بی بی قیاسیه پاسخنانه تشریحی تکلیف شماره ۱۱ کلاس دهم آریستو

$$\begin{array}{ccccccc} 1 & 5 & 12 & 22 & \Rightarrow & 1 & 5 & 12 & 22 \\ (1) & (2) & (3) & (4) & \Rightarrow & 1 & 5 & 12 & 22 \\ & & & & \Rightarrow & +1 & +4 & +7 & +10 \\ & & & & \Rightarrow & & & +3 & \Rightarrow 2\alpha \Rightarrow \alpha = 1,5 \end{array}$$

$$\alpha n^2 + bn + c \Rightarrow 1,5n^2 + bn \xrightarrow{n=1} 1,5 + b = 1 \Rightarrow b = -0,5$$

$$1,5n^2 - 0,5n \Rightarrow 1,5(10)^2 - 0,5(10) = 145 \quad \checkmark$$

تعداد گوی در شکل دهم



$$\begin{array}{ccccccc} 1 & 4 & 9 & \Rightarrow & 1 & 4 & 9 \\ (1) & (2) & (3) & \Rightarrow & 1 & 4 & 9 \\ & & & \Rightarrow & +0 & +1 & +2 & +3 \\ & & & \Rightarrow & & +1 & +2 & +3 \\ & & & \Rightarrow & & & +1 & \Rightarrow 2\alpha \Rightarrow \alpha = 0,5 \end{array}$$

$$\alpha n^2 + bn + c \Rightarrow 0,5n^2 + bn \xrightarrow{n=1} 0,5 + b = 0 \Rightarrow b = -0,5$$

$$0,5n^2 - 0,5n = 55 \Rightarrow n = 11 \quad \checkmark$$

شکل ۱۱ شامل ۵۵ مثلث رند شده می باشد.

$$\begin{array}{ccccccc} 5 & 13 & 21 & \Rightarrow & 5 & 13 & 21 \\ (1) & (2) & (3) & \Rightarrow & 5 & 13 & 21 \\ & & & \Rightarrow & +8 & +8 & \\ & & & \Rightarrow & & & \Rightarrow 2\alpha \Rightarrow \alpha = 4 \end{array}$$

$$\alpha n - 3 \Rightarrow 4n - 3 \Rightarrow 4(11) - 3 = 41$$

لایه بیرونی = ۴۱

$$\begin{array}{ccccccc} 5 & 9 & 13 & \Rightarrow & 5 & 9 & 13 \\ (1) & (2) & (3) & \Rightarrow & 5 & 9 & 13 \\ & & & \Rightarrow & +4 & +4 & \\ & & & \Rightarrow & & & \Rightarrow 2\alpha \Rightarrow \alpha = 2 \end{array}$$

$$\alpha n + 1 \Rightarrow 2n + 1 \Rightarrow 2(11) + 1 = 23$$

مرکزهای رنگی = ۲۳

$$\alpha_n = \frac{(-1)^n}{n} \Rightarrow \alpha_1 = \frac{-1}{1} = -1, \alpha_2 = \frac{1}{2}, \alpha_3 = -\frac{1}{3}, \alpha_4 = \frac{1}{4}, \alpha_5 = -\frac{1}{5}$$

$$\frac{1}{2} - (-1) = 1,5 \quad \checkmark$$

$$bn = (-3)^n - 7n \Rightarrow (-3)^3 - 7(3) = -27 - 21 = -48$$

$$\alpha n = -5n + 22 \Rightarrow -5n + 22 = -48 \Rightarrow -5n = -70 \Rightarrow n = 14$$

در نتیجه ۱۴ آیسین جلای دنباله ای $-5n + 22$ با سوسین جلای دنباله ای $(-3)^n - 7n$ برابر است $\leftarrow$

$K = 14 \quad \checkmark$

$$t_1 - t_7 = 12 \Rightarrow t_1 + 6d - (t_1 + 6d) = 3d = 12 \Rightarrow d = 4$$

$$t_4 - t_1 \Rightarrow t_1 + 3d - (t_1) = 3d \Rightarrow 3 \times 4 = 12 \quad \checkmark$$

اختلاف جمله ششم و اول برابر ۱۲ می باشد

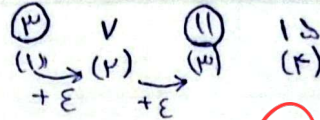
(۲)

$$t_7 = 17 \Rightarrow (t_1 + 6d) = 17$$

$$t_4 = 14 \Rightarrow t_1 + 3d = 14$$

$$3d = 3 \Rightarrow d = 1$$

$$b_n = 3, 11, \dots \Rightarrow b_n = 8n - 5$$



(۲)

$$t_n = \frac{2}{5}, \frac{4}{5}, \frac{6}{5}, \frac{8}{5} \Rightarrow t_n = \frac{2n-2}{2n+3}$$

$$2, 4, 6 \Rightarrow \frac{2n-2}{2n+3}, \quad 5, 5, 5 \Rightarrow \frac{2n+3}{2n+3}$$

(۲)

$$\frac{2n-2}{2n+3} < \frac{3}{5} \Rightarrow 4n+9 > 6n-6 \Rightarrow 2n < 15 \Rightarrow n < \frac{15}{2}$$

$\Rightarrow n < 7.5 \Rightarrow$ این دنباله ۳ جمله دارد. $\checkmark$

$$t_n = 4, 9, 14, 19, 24, 29, 34, 39, 44, 49, 54, 59, 64, 69, 74, 79, 84, 89, 94, 99, 104, 109, 114, 119, 124, 129, 134, 139, 144, 149, 154, 159, 164, 169, 174, 179, 184, 189, 194, 199, 204, 209, 214, 219, 224, 229, 234, 239, 244, 249, 254, 259, 264, 269, 274, 279, 284, 289, 294, 299, 304, 309, 314, 319, 324, 329, 334, 339, 344, 349, 354, 359, 364, 369, 374, 379, 384, 389, 394, 399, 404, 409, 414, 419, 424, 429, 434, 439, 444, 449, 454, 459, 464, 469, 474, 479, 484, 489, 494, 499, 504, 509, 514, 519, 524, 529, 534, 539, 544, 549, 554, 559, 564, 569, 574, 579, 584, 589, 594, 599, 604, 609, 614, 619, 624, 629, 634, 639, 644, 649, 654, 659, 664, 669, 674, 679, 684, 689, 694, 699, 704, 709, 714, 719, 724, 729, 734, 739, 744, 749, 754, 759, 764, 769, 774, 779, 784, 789, 794, 799, 804, 809, 814, 819, 824, 829, 834, 839, 844, 849, 854, 859, 864, 869, 874, 879, 884, 889, 894, 899, 904, 909, 914, 919, 924, 929, 934, 939, 944, 949, 954, 959, 964, 969, 974, 979, 984, 989, 994, 999, 1004, 1009, 1014, 1019, 1024, 1029, 1034, 1039, 1044, 1049, 1054, 1059, 1064, 1069, 1074, 1079, 1084, 1089, 1094, 1099, 1104, 1109, 1114, 1119, 1124, 1129, 1134, 1139, 1144, 1149, 1154, 1159, 1164, 1169, 1174, 1179, 1184, 1189, 1194, 1199, 1204, 1209, 1214, 1219, 1224, 1229, 1234, 1239, 1244, 1249, 1254, 1259, 1264, 1269, 1274, 1279, 1284, 1289, 1294, 1299, 1304, 1309, 1314, 1319, 1324, 1329, 1334, 1339, 1344, 1349, 1354, 1359, 1364, 1369, 1374, 1379, 1384, 1389, 1394, 1399, 1404, 1409, 1414, 1419, 1424, 1429, 1434, 1439, 1444, 1449, 1454, 1459, 1464, 1469, 1474, 1479, 1484, 1489, 1494, 1499, 1504, 1509, 1514, 1519, 1524, 1529, 1534, 1539, 1544, 1549, 1554, 1559, 1564, 1569, 1574, 1579, 1584, 1589, 1594, 1599, 1604, 1609, 1614, 1619, 1624, 1629, 1634, 1639, 1644, 1649, 1654, 1659, 1664, 1669, 1674, 1679, 1684, 1689, 1694, 1699, 1704, 1709, 1714, 1719, 1724, 1729, 1734, 1739, 1744, 1749, 1754, 1759, 1764, 1769, 1774, 1779, 1784, 1789, 1794, 1799, 1804, 1809, 1814, 1819, 1824, 1829, 1834, 1839, 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