

(1)

حلول نماين وصال الوحدة الثالثة / ا. ش. علي

المتتاليات والمتسلسلات الحسابية والهندسية

الفضل الأول / ص ١٤ : المتتاليات

$$(1) \quad (P) \quad \frac{n}{n+3} = n^2 \quad (U) \quad (1-n) = n^2 \quad (E) \quad n = n^2$$

$$(2) \quad (P) \quad 1, 6, 25, 64, 121, \dots \quad (U) \quad \text{غير متناهية}$$

$$(U) \quad \frac{1}{n} = 1, \frac{1}{2}, \frac{1}{3}, \frac{1}{4}, \frac{1}{5}, \dots \quad (E) \quad \text{متناهية}$$

$$(E) \quad \frac{1}{n} = 1, \frac{1}{2}, \frac{1}{3}, \frac{1}{4}, \frac{1}{5}, \dots$$

$$(3) \quad (P) \quad 1, 3, 5, 7, 9, \dots \quad (U) \quad n^2 = 1, 4, 9, 16, 25, \dots$$

$$(E) \quad 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41, 43, 45, 47, 49, 51, 53, 55, 57, 59, 61, 63, 65, 67, 69, 71, 73, 75, 77, 79, 81, 83, 85, 87, 89, 91, 93, 95, 97, 99, 101, 103, 105, 107, 109, 111, 113, 115, 117, 119, 121, 123, 125, 127, 129, 131, 133, 135, 137, 139, 141, 143, 145, 147, 149, 151, 153, 155, 157, 159, 161, 163, 165, 167, 169, 171, 173, 175, 177, 179, 181, 183, 185, 187, 189, 191, 193, 195, 197, 199, 201, 203, 205, 207, 209, 211, 213, 215, 217, 219, 221, 223, 225, 227, 229, 231, 233, 235, 237, 239, 241, 243, 245, 247, 249, 251, 253, 255, 257, 259, 261, 263, 265, 267, 269, 271, 273, 275, 277, 279, 281, 283, 285, 287, 289, 291, 293, 295, 297, 299, 301, 303, 305, 307, 309, 311, 313, 315, 317, 319, 321, 323, 325, 327, 329, 331, 333, 335, 337, 339, 341, 343, 345, 347, 349, 351, 353, 355, 357, 359, 361, 363, 365, 367, 369, 371, 373, 375, 377, 379, 381, 383, 385, 387, 389, 391, 393, 395, 397, 399, 401, 403, 405, 407, 409, 411, 413, 415, 417, 419, 421, 423, 425, 427, 429, 431, 433, 435, 437, 439, 441, 443, 445, 447, 449, 451, 453, 455, 457, 459, 461, 463, 465, 467, 469, 471, 473, 475, 477, 479, 481, 483, 485, 487, 489, 491, 493, 495, 497, 499, 501, 503, 505, 507, 509, 511, 513, 515, 517, 519, 521, 523, 525, 527, 529, 531, 533, 535, 537, 539, 541, 543, 545, 547, 549, 551, 553, 555, 557, 559, 561, 563, 565, 567, 569, 571, 573, 575, 577, 579, 581, 583, 585, 587, 589, 591, 593, 595, 597, 599, 601, 603, 605, 607, 609, 611, 613, 615, 617, 619, 621, 623, 625, 627, 629, 631, 633, 635, 637, 639, 641, 643, 645, 647, 649, 651, 653, 655, 657, 659, 661, 663, 665, 667, 669, 671, 673, 675, 677, 679, 681, 683, 685, 687, 689, 691, 693, 695, 697, 699, 701, 703, 705, 707, 709, 711, 713, 715, 717, 719, 721, 723, 725, 727, 729, 731, 733, 735, 737, 739, 741, 743, 745, 747, 749, 751, 753, 755, 757, 759, 761, 763, 765, 767, 769, 771, 773, 775, 777, 779, 781, 783, 785, 787, 789, 791, 793, 795, 797, 799, 801, 803, 805, 807, 809, 811, 813, 815, 817, 819, 821, 823, 825, 827, 829, 831, 833, 835, 837, 839, 841, 843, 845, 847, 849, 851, 853, 855, 857, 859, 861, 863, 865, 867, 869, 871, 873, 875, 877, 879, 881, 883, 885, 887, 889, 891, 893, 895, 897, 899, 901, 903, 905, 907, 909, 911, 913, 915, 917, 919, 921, 923, 925, 927, 929, 931, 933, 935, 937, 939, 941, 943, 945, 947, 949, 951, 953, 955, 957, 959, 961, 963, 965, 967, 969, 971, 973, 975, 977, 979, 981, 983, 985, 987, 989, 991, 993, 995, 997, 999, 1001, 1003, 1005, 1007, 1009, 1011, 1013, 1015, 1017, 1019, 1021, 1023, 1025, 1027, 1029, 1031, 1033, 1035, 1037, 1039, 1041, 1043, 1045, 1047, 1049, 1051, 1053, 1055, 1057, 1059, 1061, 1063, 1065, 1067, 1069, 1071, 1073, 1075, 1077, 1079, 1081, 1083, 1085, 1087, 1089, 1091, 1093, 1095, 1097, 1099, 1101, 1103, 1105, 1107, 1109, 1111, 1113, 1115, 1117, 1119, 1121, 1123, 1125, 1127, 1129, 1131, 1133, 1135, 1137, 1139, 1141, 1143, 1145, 1147, 1149, 1151, 1153, 1155, 1157, 1159, 1161, 1163, 1165, 1167, 1169, 1171, 1173, 1175, 1177, 1179, 1181, 1183, 1185, 1187, 1189, 1191, 1193, 1195, 1197, 1199, 1201, 1203, 1205, 1207, 1209, 1211, 1213, 1215, 1217, 1219, 1221, 1223, 1225, 1227, 1229, 1231, 1233, 1235, 1237, 1239, 1241, 1243, 1245, 1247, 1249, 1251, 1253, 1255, 1257, 1259, 1261, 1263, 1265, 1267, 1269, 1271, 1273, 1275, 1277, 1279, 1281, 1283, 1285, 1287, 1289, 1291, 1293, 1295, 1297, 1299, 1301, 1303, 1305, 1307, 1309, 1311, 1313, 1315, 1317, 1319, 1321, 1323, 1325, 1327, 1329, 1331, 1333, 1335, 1337, 1339, 1341, 1343, 1345, 1347, 1349, 1351, 1353, 1355, 1357, 1359, 1361, 1363, 1365, 1367, 1369, 1371, 1373, 1375, 1377, 1379, 1381, 1383, 1385, 1387, 1389, 1391, 1393, 1395, 1397, 1399, 1401, 1403, 1405, 1407, 1409, 1411, 1413, 1415, 1417, 1419, 1421, 1423, 1425, 1427, 1429, 1431, 1433, 1435, 1437, 1439, 1441, 1443, 1445, 1447, 1449, 1451, 1453, 1455, 1457, 1459, 1461, 1463, 1465, 1467, 1469, 1471, 1473, 1475, 1477, 1479, 1481, 1483, 1485, 1487, 1489, 1491, 1493, 1495, 1497, 1499, 1501, 1503, 1505, 1507, 1509, 1511, 1513, 1515, 1517, 1519, 1521, 1523, 1525, 1527, 1529, 1531, 1533, 1535, 1537, 1539, 1541, 1543, 1545, 1547, 1549, 1551, 1553, 1555, 1557, 1559, 1561, 1563, 1565, 1567, 1569, 1571, 1573, 1575, 1577, 1579, 1581, 1583, 1585, 1587, 1589, 1591, 1593, 1595, 1597, 1599, 1601, 1603, 1605, 1607, 1609, 1611, 1613, 1615, 1617, 1619, 1621, 1623, 1625, 1627, 1629, 1631, 1633, 1635, 1637, 1639, 1641, 1643, 1645, 1647, 1649, 1651, 1653, 1655, 1657, 1659, 1661, 1663, 1665, 1667, 1669, 1671, 1673, 1675, 1677, 1679, 1681, 1683, 1685, 1687, 1689, 1691, 1693, 1695, 1697, 1699, 1701, 1703, 1705, 1707, 1709, 1711, 1713, 1715, 1717, 1719, 1721, 1723, 1725, 1727, 1729, 1731, 1733, 1735, 1737, 1739, 1741, 1743, 1745, 1747, 1749, 1751, 1753, 1755, 1757, 1759, 1761, 1763, 1765, 1767, 1769, 1771, 1773, 1775, 1777, 1779, 1781, 1783, 1785, 1787, 1789, 1791, 1793, 1795, 1797, 1799, 1801, 1803, 1805, 1807, 1809, 1811, 1813, 1815, 1817, 1819, 1821, 1823, 1825, 1827, 1829, 1831, 1833, 1835, 1837, 1839, 1841, 1843, 1845, 1847, 1849, 1851, 1853, 1855, 1857, 1859, 1861, 1863, 1865, 1867, 1869, 1871, 1873, 1875, 1877, 1879, 1881, 1883, 1885, 1887, 1889, 1891, 1893, 1895, 1897, 1899, 1901, 1903, 1905, 1907, 1909, 1911, 1913, 1915, 1917, 1919, 1921, 1923, 1925, 1927, 1929, 1931, 1933, 1935, 1937, 1939, 1941, 1943, 1945, 1947, 1949, 1951, 1953, 1955, 1957, 1959, 1961, 1963, 1965, 1967, 1969, 1971, 1973, 1975, 1977, 1979, 1981, 1983, 1985, 1987, 1989, 1991, 1993, 1995, 1997, 1999, 2001, 2003, 2005, 2007, 2009, 2011, 2013, 2015, 2017, 2019, 2021, 2023, 2025, 2027, 2029, 2031, 2033, 2035, 2037, 2039, 2041, 2043, 2045, 2047, 2049, 2051, 2053, 2055, 2057, 2059, 2061, 2063, 2065, 2067, 2069, 2071, 2073, 2075, 2077, 2079, 2081, 2083, 2085, 2087, 2089, 2091, 2093, 2095, 2097, 2099, 2101, 2103, 2105, 2107, 2109, 2111, 2113, 2115, 2117, 2119, 2121, 2123, 2125, 2127, 2129, 2131, 2133, 2135, 2137, 2139, 2141, 2143, 2145, 2147, 2149, 2151, 2153, 2155, 2157, 2159, 2161, 2163, 2165, 2167, 2169, 2171, 2173, 2175, 2177, 2179, 2181, 2183, 2185, 2187, 2189, 2191, 2193, 2195, 2197, 2199, 2201, 2203, 2205, 2207, 2209, 2211, 2213, 2215, 2217, 2219, 2221, 2223, 2225, 2227, 2229, 2231, 2233, 2235, 2237, 2239, 2241, 2243, 2245, 2247, 2249, 2251, 2253, 2255, 2257, 2259, 2261, 2263, 2265, 2267, 2269, 2271, 2273, 2275, 2277, 2279, 2281, 2283, 2285, 2287, 2289, 2291, 2293, 2295, 2297, 2299, 2301, 2303, 2305, 2307, 2309, 2311, 2313, 2315, 2317, 2319, 2321, 2323, 2325, 2327, 2329, 2331, 2333, 2335, 2337, 2339, 2341, 2343, 2345, 2347, 2349, 2351, 2353, 2355, 2357, 2359, 2361, 2363, 2365, 2367, 2369, 2371, 2373, 2375, 2377, 2379, 2381, 2383, 2385, 2387, 2389, 2391, 2393, 2395, 2397, 2399, 2401, 2403, 2405, 2407, 2409, 2411, 2413, 2415, 2417, 2419, 2421, 2423, 2425, 2427, 2429, 2431, 2433, 2435, 2437, 2439, 2441, 2443, 2445, 2447, 2449, 2451, 2453, 2455, 2457, 2459, 2461, 2463, 2465, 2467, 2469, 2471, 2473, 2475, 2477, 2479, 2481, 2483, 2485, 2487, 2489, 2491, 2493, 2495, 2497, 2499, 2501, 2503, 2505, 2507, 2509, 2511, 2513, 2515, 2517, 2519, 2521, 2523, 2525, 2527, 2529, 2531, 2533, 2535, 2537, 2539, 2541, 2543, 2545, 2547, 2549, 2551, 2553, 2555, 2557, 2559, 2561, 2563, 2565, 2567, 2569, 2571, 2573, 2575, 2577, 2579, 2581, 2583, 2585, 2587, 2589, 2591, 2593, 2595, 2597, 2599, 2601, 2603, 2605, 2607, 2609, 2611, 2613, 2615, 2617, 2619, 2621, 2623, 2625, 2627, 2629, 2631, 2633, 2635, 2637, 2639, 2641, 2643, 2645, 2647, 2649, 2651, 2653, 2655, 2657, 2659, 2661, 2663, 2665, 2667, 2669, 2671, 2673, 2675, 2677, 2679, 2681, 2683, 2685, 2687, 2689, 2691, 2693, 2695, 2697, 2699, 2701, 2703, 2705, 2707, 2709, 2711, 2713, 2715, 2717, 2719, 2721, 2723, 2725, 2727, 2729, 2731, 2733, 2735, 2737, 2739, 2741, 2743, 2745, 2747, 2749, 2751, 2753, 2755, 2757, 2759, 2761, 2763, 2765, 2767, 2769, 2771, 2773, 2775, 2777, 2779, 2781, 2783, 2785, 2787, 2789, 2791, 2793, 2795, 2797, 2799, 2801, 2803, 2805, 2807, 2809, 2811, 2813, 2815, 2817, 2819, 2821, 2823, 2825, 2827, 2829, 2831, 2833, 2835, 2837, 2839, 2841, 2843, 2845, 2847, 2849, 2851, 2853, 2855, 2857, 2859, 2861, 2863, 2865, 2867, 2869, 2871, 2873, 2875, 2877, 2879, 2881, 2883, 2885, 2887, 2889, 2891, 2893, 2895, 2897, 2899, 2901, 2903, 2905, 2907, 2909, 2911, 2913, 2915, 2917, 2919, 2921, 2923, 2925, 2927, 2929, 2931, 2933, 2935, 2937, 2939, 2941, 2943, 2945, 2947, 2949, 2951, 2953, 2955, 2957, 2959, 2961, 2963, 2965, 2967, 2969, 2971, 2973, 2975, 2977, 2979, 2981, 2983, 2985, 2987, 2989, 2991, 2993, 2995, 2997, 2999, 3001, 3003, 3005, 3007, 3009, 3011, 3013, 3015, 3017, 3019, 3021, 3023, 3025, 3027, 3029, 3031, 3033, 3035, 3037, 3039, 3041, 3043, 3045, 3047, 3049, 3051, 3053, 3055, 3057, 3059, 3061, 3063, 3065, 3067, 3069, 3071, 3073, 3075, 3077, 3079, 3081, 3083, 3085, 3087, 3089, 3091, 3093, 3095, 3097, 3099, 3101, 3103, 3105, 3107, 3109, 3111, 3113, 3115, 3117, 3119, 3121, 3123, 3125, 3127, 3129, 3131, 3133, 3135, 3137, 3139, 3141, 3143, 3145, 3147, 3149, 3151, 3153, 3155, 3157, 3159, 3161, 3163, 3165, 3167, 3169, 3171, 3173, 3175, 3177, 3179, 3181, 3183, 3185, 3187, 3189, 3191, 3193, 3195, 3197, 3199, 3201, 3203, 3205, 3207, 3209, 3211, 3213, 3215, 3217, 3219, 3221, 3223, 3225, 3227, 3229, 3231, 3233, 3235, 3237, 3239, 3241, 3243, 3245, 3247, 3249, 3251, 3253, 3255, 3257, 3259, 3261, 3263, 3265, 3267, 3269, 3271, 3273, 3275, 3277, 3279, 3281, 3283, 3285, 3287, 3289, 3291, 3293, 3295, 3297, 3299, 3301, 3303, 3305, 3307, 3309, 3311, 3313, 3315, 3317, 3319, 3321, 3323, 3325, 3327, 3329, 3331, 3333, 3335, 3337, 3339, 3341, 3343, 3345, 3347, 3349, 3351, 3353, 3355, 3357, 3359, 3361, 3363, 3365, 3367, 3369, 3371, 3373, 3375, 3377, 3379, 3381, 3383, 3385, 3387, 3389, 3391, 3393, 3395, 3397, 3399, 3401, 3403, 3405, 3407, 3409, 3411, 3413, 3415, 3417, 3419, 3421, 3423, 3425, 3427, 3429, 3431, 3433, 3435, 3437, 3439, 3441, 3443, 3445, 3447, 3449, 3451, 3453, 3455, 3457, 3459, 3461, 3463, 3465, 3467, 3469, 3471, 3473, 3475, 3477, 3479, 3481, 3483, 3485, 3487, 3489, 3491, 3493, 3495, 3497, 3499, 3501, 3503, 3505, 3507, 3509, 3511, 3513, 3515, 3517, 3519, 3521, 3523, 3525, 3527, 3529, 3531, 3533, 3535, 3537, 3539, 3541, 3543, 3545, 3547, 3549, 3551, 3553, 3555, 3557, 3559, 3561, 3563, 3565, 3567, 3569, 3571, 3573, 3575, 3577, 3579, 3581, 3583, 3585, 3587, 3589, 3591, 3593, 3595, 3597, 3599, 3601, 3603, 3605, 3607, 3609, 3611, 3613, 3615, 3617, 3619, 3621, 3623, 3625, 3627, 3629, 3631, 3633, 3635, 3637, 3639, 3641, 3643, 3645, 3647, 3649, 3651, 3653, 3655, 3657, 3659, 3661, 3663, 3665, 3667, 3669, 3671, 3673, 3675, 3677, 3679, 3681, 3683, 3685, 3687, 3689, 3691, 3693, 3695, 3697, 3699, 3701, 3703, 3705, 3707, 3709, 3711, 3713, 3715, 3717, 3719, 3721, 3723, 3725, 3727, 3729, 3731, 3733, 3735, 3737, 3739, 3741, 3743, 3745, 3747, 3749, 3751, 3753, 3755, 3757, 3759, 3761, 3763, 3765, 3767, 3769, 3771, 3773, 3775, 3777, 3779, 3781, 3783, 3785, 3787, 3789, 3791, 3793, 3795, 3797, 3799, 3801, 3803, 3805, 3807, 3809, 3811, 3813, 3815, 3817, 3819, 3821, 3823, 3825, 3827, 3829, 3831, 3833, 3835, 3837, 3839, 3841, 3843, 3845, 3847, 3849, 3851, 3853, 3855, 3857, 3859, 3861, 3863, 3865, 3867, 3869, 3871, 3873, 3875, 3877, 3879, 3881, 3883, 3885, 3887, 3889, 3891, 3893, 3895, 3897, 3899, 3901, 3903, 3905, 3907, 3909, 3911, 3913, 3915, 3917, 3919, 3921, 3923, 3925, 3927, 3929, 3931, 3933, 3935, 3937, 3939, 3941, 3943, 3945, 3947, 3949, 3951, 3953, 3955, 3957, 3959, 3961, 3963, 3965, 3967, 3969, 3971, 3973, 3975, 3977, 3979, 3981, 3983, 3985, 3987, 3989, 3991, 3993, 3995, 3997, 3999, 4001, 4003, 4005, 4007, 4009, 4011, 4013, 4015, 4017, 4019, 4021, 4023, 4025, 4027, 4029, 4031, 4033, 4035, 4037, 4039, 4041, 4043, 4045, 4047, 4049, 4051, 4053, 4055, 4057, 4059, 4061, 4063, 4065, 4067, 4069, 4071, 4073, 4075, 4077, 4079, 4081, 4083, 4085, 408$$

(٢)

الفضل الثاني / المتتاليات والمتسلسلات الحسابية  
تمارين ص ١٣ ، المتتاليات الحسابية

$$(1) \quad (a) \text{ حسابية } u_n \text{ } u_1 = 1, u_2 = 2, u_3 = 3, \dots = \frac{1}{3} - 0$$

$$(b) \text{ حسابية } u_n \text{ } u_1 = 1, u_2 = 2, u_3 = 3, \dots = \frac{1}{3} - 0$$

$$(2) \quad p = n(1-n) + 1$$

$$100 = n(1-n) + 1 \Rightarrow n = 10 \Rightarrow \text{عدد الحدود}$$

$$(3) \quad 100 = n(1-n) + 1 \Rightarrow n = 10 \Rightarrow \text{عدد الحدود}$$

$$100 = n(1-n) + 1 \Rightarrow n = 10 \Rightarrow \text{عدد الحدود}$$

$$100 = n(1-n) + 1 \Rightarrow n = 10 \Rightarrow \text{عدد الحدود}$$

$$(4) \quad \text{نكون المتتالية } 1, 4, 9, 16, 25, 36, 49, 64, 81, 100$$

$$n(1-n) + 1 = 100 \Rightarrow n = 10$$

$$n(1-n) + 1 = 100 \Rightarrow n = 10$$

عدد الحدود الصحيحة الموجبة التي تقبل بقسمة على ٧ وأقل من ٤٥٠ هي ٦٤

$$(5) \quad (a) \quad \sum_{k=1}^n (1+k) = 1 + 2 + 3 + \dots + n = \frac{n(n+1)}{2}$$

$$(b) \quad 100 = n(1-n) + 1 \Rightarrow n = 10$$

$$(6) \quad (a) \quad 100 = n(1-n) + 1 \Rightarrow n = 10$$

$$(b) \quad 100 = n(1-n) + 1 \Rightarrow n = 10$$

$$\text{المجموع} = \text{المبلغ} + \text{الفائدة} = 70 + 30 = 100 \text{ ديناراً}$$

$$(7) \quad (a) \quad 100 = n(1-n) + 1 \Rightarrow n = 10$$

$$100 = n(1-n) + 1 \Rightarrow n = 10$$

المتتالية حسابية  $u_n$   $u_1 = 1, u_2 = 2, u_3 = 3, \dots$

تبدأ بـ ١

$$(b) \quad 100 = n(1-n) + 1 \Rightarrow n = 10$$

$$100 = n(1-n) + 1 \Rightarrow n = 10$$

المتتالية حسابية  $u_n$   $u_1 = 1, u_2 = 2, u_3 = 3, \dots$

تبدأ بـ ١

(۲۱)

$$\gamma = \frac{1}{2}, \quad c = \frac{1}{2} \quad (\forall)$$

$$5w + c\{ = 7$$

$$7 - 5 = 2, \quad 11 - 5 = 6$$

المعنى لـ ٤ ٦ ٨ ١٠ ١٢ ١٤ ١٦

$$W \cdot x(1-v) + \Sigma_{i=1}^n = vE \quad (1)$$

OC, 6ZA, 6E7, 6EW, 6E1.

(P. 14) فرض  $\alpha \sim \alpha$  استالیتی  $\alpha$  ،  $\alpha$  صفر

المتن ليس  $5 - \overset{\circ}{\Lambda}, 6 - \overset{\circ}{\Lambda}, 6 - \overset{\circ}{\Lambda}$   $5 - \overset{\circ}{\Lambda}$

$$^0 1 \Lambda_1 = (s - \overset{\circ}{\Lambda}_1) + (s - \overset{\circ}{\Lambda}_1) + \overset{\circ}{\Lambda}_1$$

پہلے معادلاتے  $\gamma = 0$

قياس الزاوية الحقيقية ٦، ٦، ٦

(c) مخاطر

(ن) لا میانه  
فرض آں فیاس احدی ندایا شکل سن فیکوہ فیاس ایزا اے

المقالة رها من وقفا من كل صمد، المزاوتية، المزاوتية (١٨٠٠ سنة)

۱. اعداد ۶، ۶، ۱۸، ۱۸، ۶، ۶

ج) ففرض أنه قياس إحدى زوايا الشكل سنو أساس المتتالية

ملفوظات المتألفين من 6 س + 5 س + 6 س + 6 س + 3 س

$$w_7 = (s^4 + s) + (s^3 + s) + (s^2 + s) + s$$

$$x_0 = 57 + 0.5$$

$$I_{A,0} = 5W + 5r$$

$$(5W - i\hbar) \frac{1}{2} = 5$$

بوجود آئے۔ یہ حل لہذا معاہدات و تعمیرات کے لئے اختیار

قصیدے ۷۔



(٤)

١٣٥ ص ١١٠ : مجموع المتسلسلة الجابية

$$[3x(1-17) + 0x^c] \frac{1}{x} = \frac{1}{17} \quad (1)$$

$$33 = 00x \wedge =$$

$$p = 2, \quad x = 5 \quad (2)$$

$$x - x(1-2) + 8x = 8$$

$$c = 2 \Rightarrow 3 - x(1-2) = 17 \Rightarrow$$

$$9c = (8 + 8x) \frac{c}{x} = \frac{c}{x}$$

$$34 + \dots + 1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 + 10 + 11 + 12 + 13 + 14 + 15 = 105$$

$$15 = 26 \quad x = 5$$

$$c11 = 30x7 = (34+1) \frac{1}{x} = \frac{1}{x}$$

$$11111 = 2 \quad (3)$$

$$[8x(1-2) + 8x^c] \frac{1}{x} = 11111$$

$$[8 - 8\wedge + 8] \frac{1}{x} = 11111$$

$$11111 = 26, \quad 11111 = 26, \quad 11111 = 26, \quad 11111 = 26, \quad 11111 = 26$$

تفاضل، تكرار، أو تائيث (نصف) الجابية

$$(1) \quad p = 5, \quad x = 10, \quad 21 \text{ ديار}$$

$$21 = 11x10 + 11 = 10, \quad 21 \text{ ديار}$$

$$[0.0x19 + 3.0x^c] \frac{c}{x} = \frac{c}{x} \quad (2)$$

$$1. = (9.0 + 7.0) \frac{1}{x} = 10, \quad 790 \text{ ديار}$$

$$(3) \quad 28 = 10 - 121 = 7 - 10 = 28$$

$$(4) \quad (0. + c) \frac{1}{x} = 24x$$

$$9 = 2 \Rightarrow 26 = 24x$$

$$2 = c - 9 = 10 \text{ ديار}$$

$$[cx(1-2) + c] \frac{1}{x} = 2 \quad (5)$$

$$2 = [2c] \frac{1}{x} =$$

(٥)

١ + ٢ + ٣ + ... + n

$$\frac{(1+n)n}{2} = [1+n+c] \frac{n}{2} = [1+(1-n)+c] \frac{n}{2} = \frac{n}{2}$$

٦) المتكامل  $\int_0^1 (1-x)^n dx = \frac{1}{n+1}$

٧)  $\frac{1}{n} \int_0^1 (1-x)^n dx = \frac{1}{n(n+1)}$

$$\begin{aligned} \frac{1}{n} \int_0^1 (1-x)^n dx &= \frac{1}{n} \left[ \frac{1}{n+1} (1-x)^{n+1} \right]_0^1 \\ &= \frac{1}{n} \left[ \frac{1}{n+1} (1-1)^{n+1} - \frac{1}{n+1} (1-0)^{n+1} \right] \\ &= \frac{1}{n} \left[ 0 - \frac{1}{n+1} \right] = -\frac{1}{n(n+1)} \end{aligned}$$

٨)  $\frac{1}{n} \int_0^1 (1-x)^n dx = \frac{1}{n(n+1)}$

$$\frac{1}{n} \int_0^1 (1-x)^n dx = \frac{1}{n(n+1)}$$

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٩)  $\frac{1}{n} \int_0^1 (1-x)^n dx = \frac{1}{n(n+1)}$

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(7)

3)  $\vec{c} = 2$ ,  $\vec{c} = 1$

(٥) (٢) نَصْرُهُمْ فِي الْوَسْطِ الْمَشْرِقِيِّ لِقَوْلِهِ الْمَتَّالِيَةِ ١٢٦٦ ١٢٦٧

$$7 \pm = 1 \rightarrow 3, 7 = 9$$

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(ج) فرضاً ان الوسط الهندسي هو  $2\sqrt{3}$  والمتناهي - 6 و 8 -

$$\varepsilon \pm = 0 \Rightarrow 17 = 0$$

المسألة - 68 - 69 - 70 1 - 68 - 69 - 70

$$\sin \alpha = \cos \theta = \frac{1}{2}, \quad \alpha = 120^\circ$$

$\cos = 0$  و  $\sin = 1$

١٢٣٤٥ ٦ ٧ ٨ ٩ ١٠ ١١ ١٢ ١٣ ١٤ ١٥ ١٦ ١٧ ١٨ ١٩ ٢٠ ٢١ ٢٢ ٢٣ ٢٤ ٢٥ ٢٦ ٢٧ ٢٨ ٢٩ ٣٠ ٣١ ٣٢ ٣٣ ٣٤ ٣٥ ٣٦ ٣٧ ٣٨ ٣٩ ٤٠ ٤١ ٤٢ ٤٣ ٤٤ ٤٥ ٤٦ ٤٧ ٤٨ ٤٩ ٥٠ ٥١ ٥٢ ٥٣ ٥٤ ٥٥ ٥٦ ٥٧ ٥٨ ٥٩ ٦٠ ٦١ ٦٢ ٦٣ ٦٤ ٦٥ ٦٦ ٦٧ ٦٨ ٦٩ ٧٠ ٧١ ٧٢ ٧٣ ٧٤ ٧٥ ٧٦ ٧٧ ٧٨ ٧٩ ٨٠ ٨١ ٨٢ ٨٣ ٨٤ ٨٥ ٨٦ ٨٧ ٨٨ ٨٩ ٩٠ ٩١ ٩٢ ٩٣ ٩٤ ٩٥ ٩٦ ٩٧ ٩٨ ٩٩ ١٠٠

$$(1.05 + 1)P = P \cdot 1.05 + P = 2P, \quad P = 1P \quad (V)$$

$$(j, c+1)P_{j, c} + (j, c+1)P = w\ell$$

$$C(C+1)P =$$

$$(1 - \frac{1}{n})^{n-1} \approx e^{-1}$$

$$(g.c+1) = \frac{2^{(g.c+1)p}}{1-2^{(g.c+1)p}} = \frac{1+n^e}{n^2}$$

افضل النتائج مع مريض اكل 4 و 1 + 200

$$\sum (1,7) \times c_{1,1} = \sum (1,7+1) c_{1,1} = 0 \quad (\wedge)$$

$$1 + \nu = \nu d(u) \quad 1 - \nu(100) = \nu e \quad (p. 19)$$

$$(\hat{c}_0 \cup 1) \cdot c_0^9(1,0) = 1,2 \text{ (e.)}$$

ل. ١ = ١١ علم ( العلم )

(14)  $\left(\frac{U-P}{C}\right)^2$  . المتوسط الربحي للعربية  $\frac{U+P}{C}$  ، والسهمي  $\frac{U+P}{C}$

$$\cdot \sqrt{C_U + U_P C - P} = w, \quad \cdot \sqrt{\frac{C_U + U_P C - P}{\Sigma}}$$

$$UP \leq C + UP_C + C_P$$

$$\sqrt{P} < \frac{U+P}{c} \text{ و } UP < \left(\frac{U+P}{c}\right)$$



(٧)

$$\frac{١٧}{١٧} = \frac{٢٧}{١٧} = \frac{٢٨}{١٨} \quad (١١)$$

$$\frac{٣٧}{٢٧} = \frac{٣٧}{٢٧} = \frac{٣٨}{٢٨}$$

نماذج المتتالية  $\frac{٣٧}{٢٧} = \frac{١٧}{١٧}$  ،  $\frac{٣٧}{٢٧}$  ،  $\frac{٣٧}{٢٧}$  ،  $\frac{٣٧}{٢٧}$  ...  
اذن المتتالية  $\frac{٣٧}{٢٧}$  ،  $\frac{٣٧}{٢٧}$  ،  $\frac{٣٧}{٢٧}$  ،  $\frac{٣٧}{٢٧}$  ...

$$\frac{١٧}{١٧} = \frac{٢٧}{٢٧} = \frac{٢٨}{٢٨} \quad (١٢)$$

$$\frac{٣٧}{٢٧} = \frac{٣٧}{٢٧} = \frac{٣٨}{٢٨}$$

$$\frac{٣٨}{٢٨} = \frac{٣٨}{٢٨} = \frac{٣٩}{٢٩} \quad (١٣)$$

اذن المتتالية  $\frac{٣٨}{٢٨}$  ،  $\frac{٣٨}{٢٨}$  ،  $\frac{٣٨}{٢٨}$  ،  $\frac{٣٨}{٢٨}$  ...

$$\frac{٣٨}{٢٨} = \frac{٣٨}{٢٨} = \frac{٣٩}{٢٩} \quad (١٤)$$

$$\frac{٣٩}{٢٩} = \frac{٣٩}{٢٩} = \frac{٤٠}{٣٠}$$

$$\frac{٤٠}{٣٠} = \frac{٤٠}{٣٠} = \frac{٤١}{٣١}$$

اذن المتتالية  $\frac{٤٠}{٣٠}$  ،  $\frac{٤٠}{٣٠}$  ،  $\frac{٤٠}{٣٠}$  ،  $\frac{٤٠}{٣٠}$  ...

(١٥) المتتالية الأولى  $\frac{٤٠}{٣٠}$  ،  $\frac{٤٠}{٣٠}$  ،  $\frac{٤٠}{٣٠}$  ،  $\frac{٤٠}{٣٠}$  ...  
المتتالية الثانية  $\frac{٤٠}{٣٠}$  ،  $\frac{٤٠}{٣٠}$  ،  $\frac{٤٠}{٣٠}$  ،  $\frac{٤٠}{٣٠}$  ...

ناتج ضرب  $\frac{٤٠}{٣٠}$  ،  $\frac{٤٠}{٣٠}$  ،  $\frac{٤٠}{٣٠}$  ،  $\frac{٤٠}{٣٠}$  ...

$$\frac{٤٠}{٣٠} = \frac{٤٠}{٣٠} = \frac{٤١}{٣١}$$

اذن المتتالية  $\frac{٤٠}{٣٠}$  ،  $\frac{٤٠}{٣٠}$  ،  $\frac{٤٠}{٣٠}$  ،  $\frac{٤٠}{٣٠}$  ...

(٨)

(١٣) حتى تكون المتتالية حاصلة بحيث أن تكون

$$صفر = (١,٢ - ٠,٤) - (٠,٤ - ٣,٩) \text{ أو } ١,٢ - ٠,٤ = ٠,٨ - ٣,٩$$

الطرف الايمن      الطرف الايسر

$$\text{الطرف الايمن} = \left( \frac{1}{٨} - \frac{1}{٤} \right) - \left( \frac{1}{٤} - \frac{1}{٨} \right)$$

بما أن المتتالية حاصلة  
فإن  $\frac{1}{٨} - \frac{1}{٤} + \frac{1}{٤} - \frac{1}{٨} = ٠$   
وذلك  $\frac{١}{٨} = \frac{١}{٨}$  و  $\frac{١}{٤} = \frac{١}{٤}$

$$\frac{1}{٨} - \frac{١}{٤} + \frac{١}{٤} - \frac{1}{٨} = \frac{1}{٨} - \frac{١}{٤} + \frac{1}{٤} - \frac{1}{٨} = ٠$$

$$\frac{1}{٨} - \frac{(١-٨)}{(٨-٨)} = \frac{1}{٨} - \frac{(١-٨)}{(٨-٨)} = ٠$$

$$\frac{1}{٨} - \frac{1}{٨} = ٠$$

بما أن  $١٤٥$  : مجموع المتتالية الحاصلة

$$(١ - \frac{1}{٨}) \frac{١}{٨} = \frac{(1 - \frac{1}{٨}) \frac{1}{٨}}{\frac{1}{٨} - 1} = \frac{(1 - \frac{1}{٨}) \frac{1}{٨}}{1 - \frac{1}{٨}} = \frac{1}{٨} (١)$$

$$(1 - \frac{1}{٤}) \frac{1}{٤} = \frac{(1 - \frac{1}{٤}) \frac{1}{٤}}{1 - \frac{1}{٤}} = \frac{1}{٤} (٢)$$

$$\text{صفر} = \frac{(1 - \frac{1}{٨}) \frac{1}{٨}}{1 - \frac{1}{٨}} = \frac{1}{٨} (٣)$$

$$٨ = ٨, ٤ = ٤, ١ = ١ (٤)$$

$$٨ = \frac{(1 - \frac{1}{٨}) \frac{1}{٨}}{1 - \frac{1}{٨}} = \frac{1}{٨}$$

$$٤ = ٤, \frac{1}{٤} = \frac{1}{٤}, \frac{1}{٤} = \frac{1}{٤} (٥)$$

$$\frac{1}{٨} = \frac{(1 - \frac{1}{٨}) \frac{1}{٨}}{1 - \frac{1}{٨}} = \frac{1}{٨}$$

$$\frac{1}{٨} = ٨, ٤ = ٤, ١ = ١ (٦)$$

$$\frac{1}{٨} = \frac{٨}{٨} = ١, \frac{1}{٤} = \frac{٤}{٤} = ١, \frac{1}{٨} = \frac{١}{٨}$$

$$\frac{1}{٨} = ٨, \frac{1}{٤} = ٤, \frac{1}{٨} = ١$$

$$\frac{1}{٨} = \frac{(1 - \frac{1}{٨}) \frac{1}{٨}}{1 - \frac{1}{٨}} = \frac{1}{٨}$$



$$(9) \quad \frac{10}{17} = \frac{7}{34} \times 2 = \frac{\frac{7}{34} - \frac{1}{2}}{\frac{1}{2} - 1} = \frac{(1 - \frac{1}{2}) \cdot 10}{1 - \frac{1}{2}} = 20$$

$$\begin{aligned} & \dots + 0.7 + 0.3 + 0.1 + 0.05 + \dots \\ & = \frac{(1 - \frac{0.4}{2}) \cdot 0.05}{1 - \frac{1}{2}} = \frac{(1 - 0.2) \cdot 0.05}{1 - \frac{1}{2}} = 0.05 \\ & = 10.4 = 2 \times \frac{0.4}{2} \times 0.05 = \end{aligned}$$

المجموع: 141: مجموع النسب المئوية

$$(1) \quad \frac{1}{3} = \frac{1}{\frac{1}{3}} = \frac{1}{(\frac{1}{3} - 1) - 1} = \infty$$

(2) لا يمكن اختيار مجموع نسبي

$$(3) \quad \frac{1}{9} = \frac{1}{-9} = \frac{1}{-1 - 1} = \infty$$

(4) لا يمكن اختيار مجموع نسبي

$$(5) \quad \frac{1}{3} = \frac{1}{-3} = \frac{1}{-1 - 1} = \infty$$

$$\frac{1}{3} = \frac{1}{-3} = \frac{1}{-1 - 1} = \infty$$

$$\dots + 0.4 + 0.4 + 0.4 = 1.2$$

$$\frac{0.4}{0.9} = \frac{0.4}{-0.9} = \frac{0.4}{-1 - 1} = \infty$$

$$\dots + 0.3 + 0.3 + 1 = 1.6$$

$$\frac{0.3}{0.9} = \frac{0.3}{-0.9} + 1 = \frac{0.3}{-1 - 1} + 1 = \infty$$

$$\dots + 74 + 108 + 207 = \dots + 1 + (\frac{1}{2} \cdot 1) + 17 \quad (17) \\ \frac{0.1}{\frac{1}{2}} = 0.2 = \frac{0.07}{\frac{1}{2} - 1} = \infty$$

$$\frac{0}{1+0} = \frac{0}{1+0} \times \frac{1}{0} = \frac{0}{1} = 0$$

$$\frac{0}{1+0} = \frac{0}{1} \times \frac{1}{1+0} = \frac{0}{1} = 0$$

المستلزمات الهندسية: كاس

$$\frac{(1+0)}{(1+0)^0} = \frac{1+0}{1+0} \times \frac{1+0}{0} = \left( \frac{0}{1+0} - 1 \right) \div \frac{1+0}{0} = \infty$$



(11)

$$q = 1 - p \quad 1 - p = p^p$$

تصیر المتسلسل -  $1 - 50 + 9 = 5$  و  $5 = 5$

$$w = 7^8 \quad \vee \quad 9 = 9 \quad (0)$$

$$\frac{1}{\mu} = -\infty, \quad \frac{1}{\epsilon \mu} = 0, \quad \mu = 0 \quad \forall \epsilon \neq 0$$

٢٦٩٦٤٧٦٨١٦٤٣٦٧٤٩

$\Lambda < 6 \dots 69769 \Lambda 61 \dots$  (v)

$$sx(1-v) + 1.0 = 1.0$$

$$C - X(1 - w) + 1.1 = A C$$

$$1 \leq \dot{\gamma} \leq \infty, \quad (1-\nu) \sigma_{-} = 1 - \nu$$

یہ صبح روزہ الخضر ۸۰ کفے بعد ۱۰ و ۱۱

$$\cdot \cdot \cdot G \mid \subset G \subset \Sigma G \subset \Lambda^p(\Lambda$$

$$\sqrt{97} = \sqrt{100 - 3} = \frac{100 - 3}{10 + 3} = 9.7$$

$$\sqrt{p} \leq \sqrt{p+1} \leq \sqrt{p+2} \quad (*)$$

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

$$1 - \nu (c_0 + 1) \dots = \nu \ell \quad (9)$$

11800  $\approx (200 + 1) 1000 = 2$

$$\gamma(n) \approx \frac{1}{(n+1)!} \quad (1)$$

محلى المصنف تكثير شراء السيرة

$$c + v + \frac{c}{v} = (1 + v) + \frac{c}{(1 + v)} = 1 + \frac{c}{1 + v} \quad (11)$$

$$1 \leq n \leq \infty, \quad (n+1) - c + n + 1 = n - 1 + n$$

$$n^2 \leq 1 + n^2 \leq 1$$

$$\left( \frac{(1+n)-n}{(1+n)n} \right) \frac{1}{0} = \frac{1}{n0} - \frac{1}{(1+n)0} = n^0 - \frac{1}{1+n} (0)$$

$$\therefore \frac{1}{(1+n)v_0} = \left( \frac{1}{(1+n)v} \right) \frac{1}{0} =$$

$$n^2 > 1 + n^2 \sim 31$$