

كسري بؤنكي

$n^p = 11$ آخرين

$\frac{1}{p} = 4d$

$\frac{1}{(-1)^p} + \frac{1}{11} + \frac{1}{p} + \frac{1}{11} + \frac{1}{p} + \frac{1}{11} = 1$

$an^p - pn + p \rightarrow n=9 \rightarrow 11 - 11 + p = 4d$

$b = \frac{a+c}{p} = \frac{4d+11}{p} = 7p$

اولين عرس: $1, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47, 53, 59, 61, 67, 71, 73, 79, 83, 89, 97, 101, 103, 107, 109, 113, 127, 131, 137, 139, 143, 149, 151, 157, 163, 167, 173, 179, 181, 187, 191, 193, 197, 199, 211, 223, 227, 229, 233, 239, 241, 247, 251, 257, 263, 269, 271, 277, 281, 283, 287, 293, 299, 307, 311, 313, 317, 331, 337, 347, 349, 353, 359, 367, 373, 379, 383, 389, 397, 401, 409, 419, 421, 431, 433, 437, 439, 443, 449, 457, 461, 463, 467, 473, 479, 487, 491, 499, 503, 509, 521, 523, 527, 531, 539, 541, 547, 551, 557, 563, 569, 571, 577, 581, 587, 593, 599, 607, 611, 613, 617, 619, 623, 629, 631, 637, 641, 643, 647, 653, 659, 661, 667, 671, 673, 677, 683, 689, 691, 697, 701, 703, 707, 709, 713, 719, 727, 729, 733, 739, 743, 749, 751, 757, 761, 763, 767, 773, 779, 781, 787, 791, 793, 797, 803, 809, 811, 817, 821, 823, 827, 829, 833, 839, 843, 847, 853, 857, 859, 863, 869, 871, 877, 881, 883, 887, 893, 899, 901, 907, 911, 913, 917, 919, 923, 929, 931, 937, 941, 943, 947, 953, 959, 961, 967, 971, 973, 977, 983, 989, 991, 993, 997, 1003, 1009, 1013, 1017, 1019, 1023, 1027, 1029, 1033, 1037, 1039, 1043, 1047, 1053, 1057, 1059, 1063, 1067, 1069, 1073, 1079, 1081, 1087, 1091, 1093, 1097, 1103, 1107, 1109, 1113, 1117, 1121, 1123, 1127, 1129, 1133, 1137, 1139, 1143, 1147, 1153, 1157, 1159, 1163, 1167, 1169, 1173, 1179, 1181, 1187, 1191, 1193, 1197, 1201, 1203, 1207, 1211, 1213, 1217, 1219, 1223, 1227, 1229, 1233, 1237, 1239, 1243, 1247, 1253, 1257, 1259, 1263, 1267, 1269, 1273, 1277, 1279, 1283, 1287, 1289, 1293, 1297, 1301, 1303, 1307, 1311, 1313, 1317, 1319, 1323, 1327, 1329, 1333, 1337, 1339, 1343, 1347, 1353, 1357, 1359, 1363, 1367, 1369, 1373, 1377, 1379, 1383, 1387, 1389, 1393, 1397, 1401, 1403, 1407, 1411, 1413, 1417, 1419, 1423, 1427, 1429, 1433, 1437, 1439, 1443, 1447, 1453, 1457, 1459, 1463, 1467, 1469, 1473, 1477, 1479, 1483, 1487, 1489, 1493, 1497, 1501, 1503, 1507, 1511, 1513, 1517, 1519, 1523, 1527, 1529, 1533, 1537, 1539, 1543, 1547, 1553, 1557, 1559, 1563, 1567, 1569, 1573, 1577, 1579, 1583, 1587, 1589, 1593, 1597, 1601, 1603, 1607, 1611, 1613, 1617, 1619, 1623, 1627, 1629, 1633, 1637, 1639, 1643, 1647, 1653, 1657, 1659, 1663, 1667, 1669, 1673, 1677, 1679, 1683, 1687, 1689, 1693, 1697, 1701, 1703, 1707, 1711, 1713, 1717, 1719, 1723, 1727, 1729, 1733, 1737, 1739, 1743, 1747, 1753, 1757, 1759, 1763, 1767, 1769, 1773, 1777, 1779, 1783, 1787, 1789, 1793, 1797, 1801, 1803, 1807, 1811, 1813, 1817, 1819, 1823, 1827, 1829, 1833, 1837, 1839, 1843, 1847, 1853, 1857, 1859, 1863, 1867, 1869, 1873, 1877, 1879, 1883, 1887, 1889, 1893, 1897, 1901, 1903, 1907, 1911, 1913, 1917, 1919, 1923, 1927, 1929, 1933, 1937, 1939, 1943, 1947, 1953, 1957, 1959, 1963, 1967, 1969, 1973, 1977, 1979, 1983, 1987, 1989, 1993, 1997, 2001, 2003, 2007, 2011, 2013, 2017, 2019, 2023, 2027, 2029, 2033, 2037, 2039, 2043, 2047, 2053, 2057, 2059, 2063, 2067, 2069, 2073, 2077, 2079, 2083, 2087, 2089, 2093, 2097, 2101, 2103, 2107, 2111, 2113, 2117, 2119, 2123, 2127, 2129, 2133, 2137, 2139, 2143, 2147, 2153, 2157, 2159, 2163, 2167, 2169, 2173, 2177, 2179, 2183, 2187, 2189, 2193, 2197, 2201, 2203, 2207, 2211, 2213, 2217, 2219, 2223, 2227, 2229, 2233, 2237, 2239, 2243, 2247, 2253, 2257, 2259, 2263, 2267, 2269, 2273, 2277, 2279, 2283, 2287, 2289, 2293, 2297, 2301, 2303, 2307, 2311, 2313, 2317, 2319, 2323, 2327, 2329, 2333, 2337, 2339, 2343, 2347, 2353, 2357, 2359, 2363, 2367, 2369, 2373, 2377, 2379, 2383, 2387, 2389, 2393, 2397, 2401, 2403, 2407, 2411, 2413, 2417, 2419, 2423, 2427, 2429, 2433, 2437, 2439, 2443, 2447, 2453, 2457, 2459, 2463, 2467, 2469, 2473, 2477, 2479, 2483, 2487, 2489, 2493, 2497, 2501, 2503, 2507, 2511, 2513, 2517, 2519, 2523, 2527, 2529, 2533, 2537, 2539, 2543, 2547, 2553, 2557, 2559, 2563, 2567, 2569, 2573, 2577, 2579, 2583, 2587, 2589, 2593, 2597, 2601, 2603, 2607, 2611, 2613, 2617, 2619, 2623, 2627, 2629, 2633, 2637, 2639, 2643, 2647, 2653, 2657, 2659, 2663, 2667, 2669, 2673, 2677, 2679, 2683, 2687, 2689, 2693, 2697, 2701, 2703, 2707, 2711, 2713, 2717, 2719, 2723, 2727, 2729, 2733, 2737, 2739, 2743, 2747, 2753, 2757, 2759, 2763, 2767, 2769, 2773, 2777, 2779, 2783, 2787, 2789, 2793, 2797, 2801, 2803, 2807, 2811, 2813, 2817, 2819, 2823, 2827, 2829, 2833, 2837, 2839, 2843, 2847, 2853, 2857, 2859, 2863, 2867, 2869, 2873, 2877, 2879, 2883, 2887, 2889, 2893, 2897, 2901, 2903, 2907, 2911, 2913, 2917, 2919, 2923, 2927, 2929, 2933, 2937, 2939, 2943, 2947, 2953, 2957, 2959, 2963, 2967, 2969, 2973, 2977, 2979, 2983, 2987, 2989, 2993, 2997, 3001, 3003, 3007, 3011, 3013, 3017, 3019, 3023, 3027, 3029, 3033, 3037, 3039, 3043, 3047, 3053, 3057, 3059, 3063, 3067, 3069, 3073, 3077, 3079, 3083, 3087, 3089, 3093, 3097, 3101, 3103, 3107, 3111, 3113, 3117, 3119, 3123, 3127, 3129, 3133, 3137, 3139, 3143, 3147, 3153, 3157, 3159, 3163, 3167, 3169, 3173, 3177, 3179, 3183, 3187, 3189, 3193, 3197, 3201, 3203, 3207, 3211, 3213, 3217, 3219, 3223, 3227, 3229, 3233, 3237, 3239, 3243, 3247, 3253, 3257, 3259, 3263, 3267, 3269, 3273, 3277, 3279, 3283, 3287, 3289, 3293, 3297, 3301, 3303, 3307, 3311, 3313, 3317, 3319, 3323, 3327, 3329, 3333, 3337, 3339, 3343, 3347, 3353, 3357, 3359, 3363, 3367, 3369, 3373, 3377, 3379, 3383, 3387, 3389, 3393, 3397, 3401, 3403, 3407, 3411, 3413, 3417, 3419, 3423, 3427, 3429, 3433, 3437, 3439, 3443, 3447, 3453, 3457, 3459, 3463, 3467, 3469, 3473, 3477, 3479, 3483, 3487, 3489, 3493, 3497, 3501, 3503, 3507, 3511, 3513, 3517, 3519, 3523, 3527, 3529, 3533, 3537, 3539, 3543, 3547, 3553, 3557, 3559, 3563, 3567, 3569, 3573, 3577, 3579, 3583, 3587, 3589, 3593, 3597, 3601, 3603, 3607, 3611, 3613, 3617, 3619, 3623, 3627, 3629, 3633, 3637, 3639, 3643, 3647, 3653, 3657, 3659, 3663, 3667, 3669, 3673, 3677, 3679, 3683, 3687, 3689, 3693, 3697, 3701, 3703, 3707, 3711, 3713, 3717, 3719, 3723, 3727, 3729, 3733, 3737, 3739, 3743, 3747, 3753, 3757, 3759, 3763, 3767, 3769, 3773, 3777, 3779, 3783, 3787, 3789, 3793, 3797, 3801, 3803, 3807, 3811, 3813, 3817, 3819, 3823, 3827, 3829, 3833, 3837, 3839, 3843, 3847, 3853, 3857, 3859, 3863, 3867, 3869, 3873, 3877, 3879, 3883, 3887, 3889, 3893, 3897, 3901, 3903, 3907, 3911, 3913, 3917, 3919, 3923, 3927, 3929, 3933, 3937, 3939, 3943, 3947, 3953, 3957, 3959, 3963, 3967, 3969, 3973, 3977, 3979, 3983, 3987, 3989, 3993, 3997, 4001, 4003, 4007, 4011, 4013, 4017, 4019, 4023, 4027, 4029, 4033, 4037, 4039, 4043, 4047, 4053, 4057, 4059, 4063, 4067, 4069, 4073, 4077, 4079, 4083, 4087, 4089, 4093, 4097, 4101, 4103, 4107, 4111, 4113, 4117, 4119, 4123, 4127, 4129, 4133, 4137, 4139, 4143, 4147, 4153, 4157, 4159, 4163, 4167, 4169, 4173, 4177, 4179, 4183, 4187, 4189, 4193, 4197, 4201, 4203, 4207, 4211, 4213, 4217, 4219, 4223, 4227, 4229, 4233, 4237, 4239, 4243, 4247, 4253, 4257, 4259, 4263, 4267, 4269, 4273, 4277, 4279, 4283, 4287, 4289, 4293, 4297, 4301, 4303, 4307, 4311, 4313, 4317, 4319, 4323, 4327, 4329, 4333, 4337, 4339, 4343, 4347, 4353, 4357, 4359, 4363, 4367, 4369, 4373, 4377, 4379, 4383, 4387, 4389, 4393, 4397, 4401, 4403, 4407, 4411, 4413, 4417, 4419, 4423, 4427, 4429, 4433, 4437, 4439, 4443, 4447, 4453, 4457, 4459, 4463, 4467, 4469, 4473, 4477, 4479, 4483, 4487, 4489, 4493, 4497, 4501, 4503, 4507, 4511, 4513, 4517, 4519, 4523, 4527, 4529, 4533, 4537, 4539, 4543, 4547, 4553, 4557, 4559, 4563, 4567, 4569, 4573, 4577, 4579, 4583, 4587, 4589, 4593, 4597, 4601, 4603, 4607, 4611, 4613, 4617, 4619, 4623, 4627, 4629, 4633, 4637, 4639, 4643, 4647, 4653, 4657, 4659, 4663, 4667, 4669, 4673, 4677, 4679, 4683, 4687, 4689, 4693, 4697, 4701, 4703, 4707, 4711, 4713, 4717, 4719, 4723, 4727, 4729, 4733, 4737, 4739, 4743, 4747, 4753, 4757, 4759, 4763, 4767, 4769, 4773, 4777, 4779, 4783, 4787, 4789, 4793, 4797, 4801, 4803, 4807, 4811, 4813, 4817, 4819, 4823, 4827, 4829, 4833, 4837, 4839, 4843, 4847, 4853, 4857, 4859, 4863, 4867, 4869, 4873, 4877, 4879, 4883, 4887, 4889, 4893, 4897, 4901, 4903, 4907, 4911, 4913, 4917, 4919, 4923, 4927, 4929, 4933, 4937, 4939, 4943, 4947, 4953, 4957, 4959, 4963, 4967, 4969, 4973, 4977, 4979, 4983, 4987, 4989, 4993, 4997, 5001, 5003, 5007, 5011, 5013, 5017, 5019, 5023, 5027, 5029, 5033, 5037, 5039, 5043, 5047, 5053, 5057, 5059, 5063, 5067, 5069, 5073, 5077, 5079, 5083, 5087, 5089, 5093, 5097, 5101, 5103, 5107, 5111, 5113, 5117, 5119, 5123, 5127, 5129, 5133, 5137, 5139, 5143, 5147, 5153, 5157, 5159, 5163, 5167, 5169, 5173, 5177, 5179, 5183, 5187, 5189, 5193, 5197, 5201, 5203, 5207, 5211, 5213, 5217, 5219, 5223, 5227, 5229, 5233, 5237, 5239, 5243, 5247, 5253, 5257, 5259, 5263, 5267, 5269, 5273, 5277, 5279, 5283, 5287, 5289, 5293, 5297, 5301, 5303, 5307, 5311, 5313, 5317, 5319, 5323, 5327, 5329, 5333, 5337, 5339, 5343, 5347, 5353, 5357, 5359, 5363, 5367, 5369, 5373, 5377, 5379, 5383, 5387, 5389, 5393, 5397, 5401, 5403, 5407, 5411, 5413, 5417, 5419, 5423, 5427, 5429, 5433, 5437, 5439, 5443, 5447, 5453, 5457, 5459, 5463, 5467, 5469, 5473, 5477, 5479, 5483, 5487, 5489, 5493, 5497, 5501, 5503, 5507, 5511, 5513, 5517, 5519, 5523, 5527, 5529, 5533, 5537, 5539, 5543, 5547, 5553, 5557, 5559, 5563, 5567, 5569, 5573, 5577, 5579, 5583, 5587, 5589, 5593, 5597, 5601, 5603, 5607, 5611, 5613, 5617, 5619, 5623, 5627, 5629, 5633, 5637, 5639, 5643, 5647, 5653, 5657, 5659, 5663, 5667, 5669, 5673, 5677, 5679, 5683, 5687, 5689, 5693, 5697, 5701, 5703, 5707, 5711, 5713, 5717, 5719, 5723, 5727, 5729, 5733, 5737, 5739, 5743, 5747, 5753, 5757, 5759, 5763, 5767, 5769, 5773, 5777, 5779, 5783, 5787, 5789, 5793, 5797, 5801, 5803, 5807, 5811, 5813, 5817, 5819, 5823, 5827, 5829, 5833, 5837, 5839, 5843, 5847, 5853, 5857, 5859, 5863, 5867, 5869, 5873, 5877, 5879, 5883, 5887, 5889, 5893, 5897, 5901, 5903, 5907, 5911, 5913, 5917, 5919, 5923, 5927, 5929, 5933, 5937, 5939, 5943, 5947, 5953, 5957, 5959, 5963, 5967, 5969, 5973, 5977, 5979, 5983, 5987, 5989, 5993, 5997, 6001, 6003, 6007, 6011, 6013, 6017, 6019, 6023, 6027, 6029, 6033, 6037, 6039, 6043, 6047, 6053, 6057, 6059, 6063, 6067, 6069, 6073, 6077, 6079, 6083, 6087, 6089, 6093, 6097, 6101, 6103, 6107, 6111, 6113, 6117, 6119, 6123, 6127, 6129, 6133, 6137, 6139, 6143, 6147, 6153, 6157, 6159, 6163, 6167, 6169, 6173, 6177, 6179, 6183, 6187, 6189, 6193, 6197, 6201, 6203, 6207, 6211, 6213, 6217, 6219, 6223, 6227, 6229, 6233, 6237, 6239, 6243, 6247, 6253, 6257, 6259, 6263, 6267, 6269, 6273, 6277, 6279, 6283, 6287, 6289, 6293, 6297, 6301, 6303, 6307, 6311, 6313, 6317, 6319, 6323, 6327, 6329, 6333, 6337, 6339, 6343, 6347, 6353, 6357, 6359, 6363, 6367, 6369, 6373, 6377, 6379, 6383, 6387, 6389, 6393, 6397, 6401, 6403, 6407, 6411, 6413, 6417, 6419, 6423, 6427, 6429, 6433, 6437, 6439, 6443, 6447, 6453, 6457, 6459, 6463, 6467, 6469, 6473, 6477, 6479, 6483, 6487, 6489, 6493, 6497, 6501, 6503, 6507, 6511, 6513, 6517, 6519, 6523, 6527, 6529, 6533, 6537, 6539, 6543, 6547, 6553, 6557, 6559, 6563, 6567, 6569, 6573, 6577, 6579, 6583, 6587, 6589, 6593, 6597, 6601, 6603, 6607, 6611, 6613, 6617, 6619, 6623, 6627, 6629, 6633, 6637, 6639, 6643, 6647, 6653, 6657, 6659, 6663, 6667, 6669, 6673, 6677, 6679, 6683, 6687, 6689, 6693, 6697, 6701, 6703, 6707, 6711, 6713, 6717, 6719, 6723, 6727, 6729, 6733, 6737, 6739, 6743, 6747, 6753, 6757, 6759, 6763, 6767, 6769, 6773, 6777, 6779, 6783, 6787, 6789, 6793, 6797, 6801, 6803, 6807, 6811, 6813, 6817, 6819, 6823, 6827, 6829, 6833, 6837, 6839, 6843, 6847, 6853, 6857, 6859, 6863, 6867, 6869, 6873, 6877, 6879, 6883, 6887, 6889, 6893, 6897, 6901, 6903, 6907, 6911, 6913, 6917, 6919, 6923, 6927, 6929, 6933, 6937, 6939, 6943, 6947, 6953, 6957, 6959, 6963, 6967, 6969, 6973, 6977, 6979, 6983, 6987, 6989, 6993, 6997, 7001, 7003, 7007, 7011, 7013, 7017, 7019, 7023, 7027, 7029, 7033, 7037, 7039, 7043, 7047, 7053, 7057, 7059, 7063, 7067, 7069, 7073, 7077, 7079, 7083, 7087, 7089, 7093, 7097, 7101, 7103, 7107, 7111, 7113, 7117, 7119, 7123, 7127, 7129, 7133, 7137, 7139, 7143, 7147, 7153, 7157, 7159, 7163, 7167, 7169, 7173, 7177, 7179, 7183, 7187, 7189, 7193, 7197, 7201, 7203, 7207, 7211, 7213, 7217, 7219, 7223, 7227, 7229, 7233, 7237, 7239, 7243, 7247, 7253, 7257, 7259, 7263, 7267, 7269$

$$a_1 + \cancel{pd} = \cancel{pa} + b \rightarrow -1a \quad \left\{ \begin{array}{l} a_1 + \cancel{pd} = \cancel{pa} + \cancel{b} \rightarrow -1a \\ -10a \end{array} \right.$$

$$10a + b = 0$$

$$b = -10a$$

$$a_10 = 10a + b \rightarrow 10a - 10a = 0a$$

$$\frac{da}{da} = 1$$

~~المعادلة~~

$$a_1 + \cancel{pd} = -1a$$

$$a_1 + \cancel{pd} = -1a$$

$$\epsilon d = 0a$$

$$d = \frac{0}{\epsilon} a$$

$$q(a+d)^p = d(a+pd)(a) + p(a+d)(a)$$

$$4a_p^p + 0a_p a_1 + 10a_p$$

$$9a^p + 4pd^p + 10pd = 0a^p + 10ad + 10a^p + 10ad$$

هذا هو

$$4(a^p + d^p + 10ad) = 10a^p + 10ad$$

$$\frac{a+c}{p} = b$$

$$b = a+d \quad \left\{ \begin{array}{l} c = a+pd \end{array} \right.$$

$$\frac{c}{p} = \frac{a}{p} + b$$

$$\left(\frac{a}{p}\right)^p = \frac{c}{p} \times b$$

$$\left(\frac{a}{p}\right)^p = \left(\frac{a+pd}{\epsilon}\right)(a+d)$$

$$a^p = (a+pd)(a+d) \rightarrow a^p = a^p + pad + pd^p \rightarrow pad + pd^p = 0 \rightarrow d(pa + pd)$$

d ≠ 0

$$pa + pd = 0 \rightarrow d = -\frac{pa}{p}$$

$$p = \frac{a}{\frac{c}{\epsilon}} = \frac{a}{\frac{a+pd}{\epsilon}} = \frac{pa}{a+pd}$$

$$d = -\frac{pa}{p}$$

$$q = \frac{pa}{a + p(-\frac{pa}{p})} = \frac{pa}{a - pa} = -1$$

$$b = ar, C = ar^p \rightarrow \mu b - \nu a = C - \mu b \rightarrow \mu(ar) - \nu a = ar^p - \mu(ar)$$

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$$\mu ar - \nu a = ar^p - \mu ar \rightarrow a(r^p - \mu r + \nu) = 0 \quad r^p - \mu r + \nu = 0$$

$$r = \frac{\mu \pm \sqrt{\mu^2 - 4\nu}}{2} = \frac{\mu \pm \sqrt{\nu}}{2} \quad \frac{a\mu}{a\mu} = \frac{ar^1}{ar^0} = r^p \rightarrow (\mu \pm \sqrt{\nu})^p$$

$$\begin{aligned} ar &= ar \quad a\mu = ar^0 \quad \frac{ar^0}{ar^p} = \mu \quad \frac{ar^0}{a^p r^p} = \frac{r^p}{a^p} \rightarrow \frac{ar}{a^p} = \frac{r}{a} \\ \frac{\mu^p}{a^p} + \frac{r}{a} &= \mu \rightarrow r^p + ar = \mu a^p \rightarrow \frac{r^p}{a^p} = \frac{r}{a} = \mu \quad \left\{ \frac{r}{a} = k \right\} \quad k^p + k = \mu \\ k^p + k - \mu &= 0 \\ (k + \mu)(k - 1) &= 0 \quad k = 1 \quad k = -\mu \\ \frac{r}{a} = 1 &\rightarrow r = a \quad \left\{ \frac{r}{a} = -\mu \rightarrow r = -\mu \right\} \end{aligned}$$

$$\begin{aligned} a_\mu^p &= a\mu \quad a_\mu = 1 \\ a_\varepsilon &= a \quad a_1 = \frac{1}{\mu} \end{aligned}$$

$$a_\mu^p = \mu \rightarrow a_\mu = \mu \quad a_1 = \frac{1}{\mu} \quad \frac{1}{\mu} \cdot \frac{1}{\mu} = \frac{1}{\mu^2}$$

$$a_1 \cdot a_\mu \cdot a_\mu \cdot a_\varepsilon$$