

# NOMBRES - Curiosités, théorie et usages

## NOMBRES & RETOURNÉS

### Sommes et différences

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Table des nombres dont la somme ou la différence entre nombre (n) et retourné (r) est un repdigit.

Exemple:  $3002 - 2003 = 999$  ou  $2042 + 2402 = 4444$

- >>> Somme  $n + r =$  repdigit
- >>> Différence  $n - r =$  repdigit
- >>> Somme  $n + r =$  palindrome
- >>> Produit  $n \cdot r =$  palindrome
- >>>  $(n + r)$ ,  $(n - r)$  ou  $(n \cdot r) =$  puissance
- >>> Triangulaires

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Les 73 nombres tels que  $n + r =$  repdigit jusqu'à 1000

[n, n + r]

[10, 11], [11, 22], [12, 33], [13, 44], [14, 55], [15, 66], [16, 77], [17, 88], [18, 99], [20, 22], [21, 33], [22, 44], [23, 55], [24, 66], [25, 77], [26, 88], [27, 99], [30, 33], [31, 44], [32, 55], [33, 66], [34, 77], [35, 88], [36, 99], [40, 44], [41, 55], [42, 66], [43, 77], [44, 88], [45, 99], [50, 55], [51, 66], [52, 77], [53, 88], [54, 99], [60, 66], [61, 77], [62, 88], [63, 99], [70, 77], [71, 88], [72, 99], [80, 88], [81, 99], [90, 99], [111, 222], [123, 444], [135, 666], [147, 888], [209, 1111], [210, 222], [222, 444], [234, 666], [246, 888], [308, 1111], [321, 444], [333, 666], [345, 888], [407, 1111], [420, 444], [432, 666], [444, 888], [506, 1111], [531, 666], [543, 888], [605, 1111], [630, 666], [642, 888], [704, 1111], [741, 888], [803, 1111], [840, 888], [902, 1111]

Les 330 nombres tels que  $n + r =$  repdigit de 1000 à 10 000

[n, n + r]

[1010, 1111], [1021, 2222], [1032, 3333], [1043, 4444], [1054, 5555], [1065, 6666], [1076, 7777], [1087, 8888], [1098, 9999], [1100, 1111], [1111, 2222], [1122, 3333], [1133, 4444], [1144, 5555], [1155, 6666], [1166, 7777], [1177, 8888], [1188, 9999], [1201, 2222], [1212, 3333], [1223, 4444], [1234, 5555], [1245, 6666], [1256, 7777], [1267, 8888], [1278, 9999], [1302, 3333], [1313, 4444], [1324, 5555], [1335, 6666], [1346, 7777], [1357, 8888], [1368, 9999], [1403, 4444], [1414, 5555], [1425, 6666], [1436, 7777], [1447, 8888], [1458, 9999], [1504, 5555], [1515, 6666], [1526, 7777], [1537, 8888], [1548, 9999], [1605, 6666], [1616, 7777], [1627, 8888], [1638, 9999], [1706, 7777], [1717, 8888], [1728, 9999], [1807, 8888], [1818, 9999], [1908, 9999], [2020, 2222], [2031, 3333], [2042, 4444], [2053, 5555], [2064, 6666], [2075, 7777],

[2086, 8888], [2097, 9999], [2110, 2222], [2121, 3333], [2132, 4444], [2143, 5555],  
[2154, 6666], [2165, 7777], [2176, 8888], [2187, 9999], [2200, 2222], [2211, 3333],  
[2222, 4444], [2233, 5555], [2244, 6666], [2255, 7777], [2266, 8888], [2277, 9999],  
[2301, 3333], [2312, 4444], [2323, 5555], [2334, 6666], [2345, 7777], [2356, 8888],  
[2367, 9999], [2402, 4444], [2413, 5555], [2424, 6666], [2435, 7777], [2446, 8888],  
[2457, 9999], [2503, 5555], [2514, 6666], [2525, 7777], [2536, 8888], [2547, 9999],  
[2604, 6666], [2615, 7777], [2626, 8888], [2637, 9999], [2705, 7777], [2716, 8888],  
[2727, 9999], [2806, 8888], [2817, 9999], [2907, 9999], [3030, 3333], [3041, 4444],  
[3052, 5555], [3063, 6666], [3074, 7777], [3085, 8888], [3096, 9999], [3120, 3333],  
[3131, 4444], [3142, 5555], [3153, 6666], [3164, 7777], [3175, 8888], [3186, 9999],  
[3210, 3333], [3221, 4444], [3232, 5555], [3243, 6666], [3254, 7777], [3265, 8888],  
[3276, 9999], [3300, 3333], [3311, 4444], [3322, 5555], [3333, 6666], [3344, 7777],  
[3355, 8888], [3366, 9999], [3401, 4444], [3412, 5555], [3423, 6666], [3434, 7777],  
[3445, 8888], [3456, 9999], [3502, 5555], [3513, 6666], [3524, 7777], [3535, 8888],  
[3546, 9999], [3603, 6666], [3614, 7777], [3625, 8888], [3636, 9999], [3704, 7777],  
[3715, 8888], [3726, 9999], [3805, 8888], [3816, 9999], [3906, 9999], [4040, 4444],  
[4051, 5555], [4062, 6666], [4073, 7777], [4084, 8888], [4095, 9999], [4130, 4444],  
[4141, 5555], [4152, 6666], [4163, 7777], [4174, 8888], [4185, 9999], [4220, 4444],  
[4231, 5555], [4242, 6666], [4253, 7777], [4264, 8888], [4275, 9999], [4310, 4444],  
[4321, 5555], [4332, 6666], [4343, 7777], [4354, 8888], [4365, 9999], [4400, 4444],  
[4411, 5555], [4422, 6666], [4433, 7777], [4444, 8888], [4455, 9999], [4501, 5555],  
[4512, 6666], [4523, 7777], [4534, 8888], [4545, 9999], [4602, 6666], [4613, 7777],  
[4624, 8888], [4635, 9999], [4703, 7777], [4714, 8888], [4725, 9999], [4804, 8888],  
[4815, 9999], [4905, 9999], [5050, 5555], [5061, 6666], [5072, 7777], [5083, 8888],  
[5094, 9999], [5140, 5555], [5151, 6666], [5162, 7777], [5173, 8888], [5184, 9999],  
[5230, 5555], [5241, 6666], [5252, 7777], [5263, 8888], [5274, 9999], [5320, 5555],  
[5331, 6666], [5342, 7777], [5353, 8888], [5364, 9999], [5410, 5555], [5421, 6666],  
[5432, 7777], [5443, 8888], [5454, 9999], [5500, 5555], [5511, 6666], [5522, 7777],  
[5533, 8888], [5544, 9999], [5601, 6666], [5612, 7777], [5623, 8888], [5634, 9999],  
[5702, 7777], [5713, 8888], [5724, 9999], [5803, 8888], [5814, 9999], [5904, 9999],  
[6060, 6666], [6071, 7777], [6082, 8888], [6093, 9999], [6150, 6666], [6161, 7777],  
[6172, 8888], [6183, 9999], [6240, 6666], [6251, 7777], [6262, 8888], [6273, 9999],  
[6330, 6666], [6341, 7777], [6352, 8888], [6363, 9999], [6420, 6666], [6431, 7777],  
[6442, 8888], [6453, 9999], [6510, 6666], [6521, 7777], [6532, 8888], [6543, 9999],  
[6600, 6666], [6611, 7777], [6622, 8888], [6633, 9999], [6701, 7777], [6712, 8888],  
[6723, 9999], [6802, 8888], [6813, 9999], [6903, 9999], [7070, 7777], [7081, 8888],  
[7092, 9999], [7160, 7777], [7171, 8888], [7182, 9999], [7250, 7777], [7261, 8888],  
[7272, 9999], [7340, 7777], [7351, 8888], [7362, 9999], [7430, 7777], [7441, 8888],  
[7452, 9999], [7520, 7777], [7531, 8888], [7542, 9999], [7610, 7777], [7621, 8888],  
[7632, 9999], [7700, 7777], [7711, 8888], [7722, 9999], [7801, 8888], [7812, 9999],  
[7902, 9999], [8080, 8888], [8091, 9999], [8170, 8888], [8181, 9999], [8260, 8888],  
[8271, 9999], [8350, 8888], [8361, 9999], [8440, 8888], [8451, 9999], [8530, 8888],  
[8541, 9999], [8620, 8888], [8631, 9999], [8710, 8888], [8721, 9999], [8800, 8888],  
[8811, 9999], [8901, 9999], [9090, 9999], [9180, 9999], [9270, 9999], [9360, 9999],  
[9450, 9999], [9540, 9999], [9630, 9999], [9720, 9999], [9810, 9999], [9900, 9999]



[Haut](#)

**Les 17 nombres tels que  $\text{abs}(n - r) = 9$**

10, 12, 21, 23, 32, 34, 43, 45, 54, 56, 65, 67, 76, 78, 87, 89, 98

**Les 170 nombres tels que  $\text{abs}(n - r) = 99$**

100, 102, 110, 112, 120, 122, 130, 132, 140, 142, 150, 152, 160, 162, 170, 172, 180, 182, 190, 192, 201, 203, 211, 213, 221, 223, 231, 233, 241, 243, 251, 253, 261, 263, 271, 273, 281, 283, 291, 293, 302, 304, 312, 314, 322, 324, 332, 334, 342, 344, 352, 354, 362, 364, 372, 374, 382, 384, 392, 394, 403, 405, 413, 415, 423, 425, 433, 435, 443, 445, 453, 455, 463, 465, 473, 475, 483, 485, 493, 495, 504, 506, 514, 516, 524, 526, 534, 536, 544, 546, 554, 556, 564, 566, 574, 576, 584, 586, 594, 596, 605, 607, 615, 617, 625, 627, 635, 637, 645, 647, 655, 657, 665, 667, 675, 677, 685, 687, 695, 697, 706, 708, 716, 718, 726, 728, 736, 738, 746, 748, 756, 758, 766, 768, 776, 778, 786, 788, 796, 798, 807, 809, 817, 819, 827, 829, 837, 839, 847, 849, 857, 859, 867, 869, 877, 879, 887, 889, 897, 899, 908, 918, 928, 938, 948, 958, 968, 978, 988, 998

**Les 170 nombres tels que  $\text{abs}(n - r) = 999$**

1000, 1002, 1110, 1112, 1220, 1222, 1330, 1332, 1440, 1442, 1550, 1552, 1660, 1662, 1770, 1772, 1880, 1882, 1990, 1992, 2001, 2003, 2111, 2113, 2221, 2223, 2331, 2333, 2441, 2443, 2551, 2553, 2661, 2663, 2771, 2773, 2881, 2883, 2991, 2993, 3002, 3004, 3112, 3114, 3222, 3224, 3332, 3334, 3442, 3444, 3552, 3554, 3662, 3664, 3772, 3774, 3882, 3884, 3992, 3994, 4003, 4005, 4113, 4115, 4223, 4225, 4333, 4335, 4443, 4445, 4553, 4555, 4663, 4665, 4773, 4775, 4883, 4885, 4993, 4995, 5004, 5006, 5114, 5116, 5224, 5226, 5334, 5336, 5444, 5446, 5554, 5556, 5664, 5666, 5774, 5776, 5884, 5886, 5994, 5996, 6005, 6007, 6115, 6117, 6225, 6227, 6335, 6337, 6445, 6447, 6555, 6557, 6665, 6667, 6775, 6777, 6885, 6887, 6995, 6997, 7006, 7008, 7116, 7118, 7226, 7228, 7336, 7338, 7446, 7448, 7556, 7558, 7666, 7668, 7776, 7778, 7886, 7888, 7996, 7998, 8007, 8009, 8117, 8119, 8227, 8229, 8337, 8339, 8447, 8449, 8557, 8559, 8667, 8669, 8777, 8779, 8887, 8889, 8997, 8999, 9008, 9118, 9228, 9338, 9448, 9558, 9668, 9778, 9888, 9998

**Si  $N - R$  n'est pas en 9 repdigit, et  $N = abc$  (soit  $< 1000$ ), alors  $N - R = 100(a - c) + (c - a) \Rightarrow$  un 9 central et les deux extrémités sont complémentaire à 9**

**Exemples:**

[N, N-R]

[113, 198], [114, 297], [115, 396], [116, 495], [117, 594], [118, 693], [119, 792], [123, 198], [124, 297], [125, 396], [126, 495], [127, 594], [128, 693], [129, 792], [133, 198], [134, 297], [135, 396], [136, 495], [137, 594], [138, 693], [139, 792], [143, 198], [144, 297], [145, 396], [146, 495], [147, 594], [148, 693], [149, 792]

Les nombres sont évidemment tous divisibles par 9 (différence des mêmes chiffres, donc même racine numérique et la différence est nulle).



Les 214 nombres tels que  $n+r = \text{palindrome (non repdigit)}$  jusqu'à 1000

[n, n+r]

[29, 121], [38, 121], [47, 121], [56, 121], [65, 121], [74, 121], [83, 121], [92, 121],  
[100, 101], [101, 202], [102, 303], [103, 404], [104, 505], [105, 606], [106, 707],  
[107, 808], [108, 909], [110, 121], [112, 323], [113, 424], [114, 525], [115, 626],  
[116, 727], [117, 828], [118, 929], [120, 141], [121, 242], [122, 343], [124, 545],  
[125, 646], [126, 747], [127, 848], [128, 949], [130, 161], [131, 262], [132, 363],  
[133, 464], [134, 565], [136, 767], [137, 868], [138, 969], [140, 181], [141, 282],  
[142, 383], [143, 484], [144, 585], [145, 686], [146, 787], [148, 989], [200, 202],  
[201, 303], [202, 404], [203, 505], [204, 606], [205, 707], [206, 808], [207, 909],  
[211, 323], [212, 424], [213, 525], [214, 626], [215, 727], [216, 828], [217, 929],  
[220, 242], [221, 343], [223, 545], [224, 646], [225, 747], [226, 848], [227, 949],  
[230, 262], [231, 363], [232, 464], [233, 565], [235, 767], [236, 868], [237, 969],  
[240, 282], [241, 383], [242, 484], [243, 585], [244, 686], [245, 787], [247, 989],  
[300, 303], [301, 404], [302, 505], [303, 606], [304, 707], [305, 808], [306, 909],  
[310, 323], [311, 424], [312, 525], [313, 626], [314, 727], [315, 828], [316, 929],  
[320, 343], [322, 545], [323, 646], [324, 747], [325, 848], [326, 949], [330, 363],  
[331, 464], [332, 565], [334, 767], [335, 868], [336, 969], [340, 383], [341, 484],  
[342, 585], [343, 686], [344, 787], [346, 989], [400, 404], [401, 505], [402, 606],  
[403, 707], [404, 808], [405, 909], [410, 424], [411, 525], [412, 626], [413, 727],  
[414, 828], [415, 929], [421, 545], [422, 646], [423, 747], [424, 848], [425, 949],  
[430, 464], [431, 565], [433, 767], [434, 868], [435, 969], [440, 484], [441, 585],  
[442, 686], [443, 787], [445, 989], [500, 505], [501, 606], [502, 707], [503, 808],  
[504, 909], [510, 525], [511, 626], [512, 727], [513, 828], [514, 929], [520, 545],  
[521, 646], [522, 747], [523, 848], [524, 949], [530, 565], [532, 767], [533, 868],  
[534, 969], [540, 585], [541, 686], [542, 787], [544, 989], [600, 606], [601, 707],  
[602, 808], [603, 909], [610, 626], [611, 727], [612, 828], [613, 929], [620, 646],  
[621, 747], [622, 848], [623, 949], [631, 767], [632, 868], [633, 969], [640, 686],  
[641, 787], [643, 989], [700, 707], [701, 808], [702, 909], [710, 727], [711, 828],  
[712, 929], [720, 747], [721, 848], [722, 949], [730, 767], [731, 868], [732, 969],  
[740, 787], [742, 989], [800, 808], [801, 909], [810, 828], [811, 929], [820, 848],  
[821, 949], [830, 868], [831, 969], [841, 989], [900, 909], [910, 929], [920, 949],  
[930, 969], [940, 989], [1000, 1001]



[Haut](#)

Les 38 nombres tels que  $n \times r = \text{palindrome (non repdigit)}$  jusqu'à 10 000

[n, n x r]

[11, 121], [12, 252], [21, 252], [22, 484], [101, 10201], [102, 20502], [111, 12321],  
[112, 23632], [121, 14641], [122, 26962], [201, 20502], [202, 40804], [211, 23632],  
[212, 44944], [221, 26962], [1001, 1002001], [1002, 2005002], [1011, 1113111],  
[1012, 2126212], [1021, 1226221], [1022, 2249422], [1101, 1113111], [1102, 2216122],  
[1111, 1234321], [1112, 2347432], [1121, 1357531], [1201, 1226221],  
[1202, 2429242], [1211, 1357531], [2001, 2005002], [2002, 4008004], [2011,

2216122], [2012, 4229224], [2021, 2429242], [2101, 2126212], [2102, 4229224], [2111, 2347432], [2201, 2249422]



[Haut](#)

### Les 55 nombres tels que $n + r =$ puissance jusqu'à 1000

[n, n + r, ses facteurs]

[2, 4,  $2^2$ ], [4, 8,  $2^3$ ], [8, 16,  $2^4$ ], [29, 121,  $11^2$ ], [38, 121,  $11^2$ ], [47, 121,  $11^2$ ], [56, 121,  $11^2$ ], [65, 121,  $11^2$ ], [74, 121,  $11^2$ ], [83, 121,  $11^2$ ], [92, 121,  $11^2$ ], [110, 121,  $11^2$ ], [122, 343,  $7^3$ ], [143, 484,  $2^2 \cdot 11^2$ ], [164, 625,  $5^4$ ], [187, 968,  $2^3 \cdot 11^2$ ], [198, 1089,  $3^2 \cdot 11^2$ ], [221, 343,  $7^3$ ], [242, 484,  $2^2 \cdot 11^2$ ], [263, 625,  $5^4$ ], [286, 968,  $2^3 \cdot 11^2$ ], [297, 1089,  $3^2 \cdot 11^2$ ], [320, 343,  $7^3$ ], [341, 484,  $2^2 \cdot 11^2$ ], [362, 625,  $5^4$ ], [379, 1352,  $2^3 \cdot 13^2$ ], [385, 968,  $2^3 \cdot 11^2$ ], [389, 1372,  $2^2 \cdot 7^3$ ], [396, 1089,  $3^2 \cdot 11^2$ ], [440, 484,  $2^2 \cdot 11^2$ ], [461, 625,  $5^4$ ], [478, 1352,  $2^3 \cdot 13^2$ ], [484, 968,  $2^3 \cdot 11^2$ ], [488, 1372,  $2^2 \cdot 7^3$ ], [495, 1089,  $3^2 \cdot 11^2$ ], [560, 625,  $5^4$ ], [577, 1352,  $2^3 \cdot 13^2$ ], [583, 968,  $2^3 \cdot 11^2$ ], [587, 1372,  $2^2 \cdot 7^3$ ], [594, 1089,  $3^2 \cdot 11^2$ ], [676, 1352,  $2^3 \cdot 13^2$ ], [682, 968,  $2^3 \cdot 11^2$ ], [686, 1372,  $2^2 \cdot 7^3$ ], [693, 1089,  $3^2 \cdot 11^2$ ], [775, 1352,  $2^3 \cdot 13^2$ ], [781, 968,  $2^3 \cdot 11^2$ ], [785, 1372,  $2^2 \cdot 7^3$ ], [792, 1089,  $3^2 \cdot 11^2$ ], [874, 1352,  $2^3 \cdot 13^2$ ], [880, 968,  $2^3 \cdot 11^2$ ], [884, 1372,  $2^2 \cdot 7^3$ ], [891, 1089,  $3^2 \cdot 11^2$ ], [973, 1352,  $2^3 \cdot 13^2$ ], [983, 1372,  $2^2 \cdot 7^3$ ], [990, 1089,  $3^2 \cdot 11^2$ ]

### Les 28 nombres tels que $n - r =$ puissance jusqu'à 1000

[n, n - r, ses facteurs]

[14, 27,  $3^3$ ], [15, 36,  $2^2 \cdot 3^2$ ], [19, 72,  $2^3 \cdot 3^2$ ], [25, 27,  $3^3$ ], [26, 36,  $2^2 \cdot 3^2$ ], [30, 27,  $3^3$ ], [36, 27,  $3^3$ ], [37, 36,  $2^2 \cdot 3^2$ ], [40, 36,  $2^2 \cdot 3^2$ ], [41, 27,  $3^3$ ], [47, 27,  $3^3$ ], [48, 36,  $2^2 \cdot 3^2$ ], [51, 36,  $2^2 \cdot 3^2$ ], [52, 27,  $3^3$ ], [58, 27,  $3^3$ ], [59, 36,  $2^2 \cdot 3^2$ ], [62, 36,  $2^2 \cdot 3^2$ ], [63, 27,  $3^3$ ], [69, 27,  $3^3$ ], [73, 36,  $2^2 \cdot 3^2$ ], [74, 27,  $3^3$ ], [80, 72,  $2^3 \cdot 3^2$ ], [84, 36,  $2^2 \cdot 3^2$ ], [85, 27,  $3^3$ ], [90, 81,  $3^4$ ], [91, 72,  $2^3 \cdot 3^2$ ], [95, 36,  $2^2 \cdot 3^2$ ], [96, 27,  $3^3$ ]

### Les 82 nombres de 1000 à 2000

[1012, 1089,  $3^2 \cdot 11^2$ ], [1014, 3087,  $3^2 \cdot 7^3$ ], [1017, 6084,  $2^2 \cdot 3^2 \cdot 13^2$ ], [1030, 729,  $3^6$ ], [1034, 3267,  $3^3 \cdot 11^2$ ], [1045, 4356,  $2^2 \cdot 3^2 \cdot 11^2$ ], [1076, 5625,  $3^2 \cdot 5^4$ ], [1089, 8712,  $2^3 \cdot 3^2 \cdot 11^2$ ], [1098, 7803,  $3^3 \cdot 17^2$ ], [1100, 1089,  $3^2 \cdot 11^2$ ], [1122, 1089,  $3^2 \cdot 11^2$ ], [1124, 3087,  $3^2 \cdot 7^3$ ], [1127, 6084,  $2^2 \cdot 3^2 \cdot 13^2$ ], [1140, 729,  $3^6$ ], [1144, 3267,  $3^3 \cdot 11^2$ ], [1155, 4356,  $2^2 \cdot 3^2 \cdot 11^2$ ], [1186, 5625,  $3^2 \cdot 5^4$ ], [1199, 8712,  $2^3 \cdot 3^2 \cdot 11^2$ ], [1210, 1089,  $3^2 \cdot 11^2$ ], [1232, 1089,  $3^2 \cdot 11^2$ ], [1234, 3087,  $3^2 \cdot 7^3$ ], [1237, 6084,  $2^2 \cdot 3^2 \cdot 13^2$ ], [1250, 729,  $3^6$ ], [1254, 3267,  $3^3 \cdot 11^2$ ], [1265, 4356,  $2^2 \cdot 3^2 \cdot 11^2$ ], [1296, 5625,  $3^2 \cdot 5^4$ ], [1302, 729,  $3^6$ ], [1303, 1728,  $2^6 \cdot 3^3$ ], [1320, 1089,  $3^2 \cdot 11^2$ ], [1342, 1089,  $3^2 \cdot 11^2$ ], [1344, 3087,  $3^2 \cdot 7^3$ ], [1347, 6084,  $2^2 \cdot 3^2 \cdot 13^2$ ], [1360, 729,  $3^6$ ], [1364, 3267,  $3^3 \cdot 11^2$ ], [1375, 4356,  $2^2 \cdot 3^2 \cdot 11^2$ ], [1412, 729,  $3^6$ ], [1413, 1728,  $2^6 \cdot 3^3$ ], [1430, 1089,  $3^2 \cdot 11^2$ ],

[1452, 1089,  $3^2 \cdot 11^2$ ], [1454, 3087,  $3^2 \cdot 7^3$ ], [1457, 6084,  $2^2 \cdot 3^2 \cdot 13^2$ ], [1470, 729,  $3^6$ ], [1474, 3267,  $3^3 \cdot 11^2$ ], [1485, 4356,  $2^2 \cdot 3^2 \cdot 11^2$ ], [1522, 729,  $3^6$ ], [1523, 1728,  $2^6 \cdot 3^3$ ], [1540, 1089,  $3^2 \cdot 11^2$ ], [1562, 1089,  $3^2 \cdot 11^2$ ], [1564, 3087,  $3^2 \cdot 7^3$ ], [1567, 6084,  $2^2 \cdot 3^2 \cdot 13^2$ ], [1580, 729,  $3^6$ ], [1584, 3267,  $3^3 \cdot 11^2$ ], [1595, 4356,  $2^2 \cdot 3^2 \cdot 11^2$ ], [1605, 3456,  $2^7 \cdot 3^3$ ], [1632, 729,  $3^6$ ], [1633, 1728,  $2^6 \cdot 3^3$ ], [1650, 1089,  $3^2 \cdot 11^2$ ], [1672, 1089,  $3^2 \cdot 11^2$ ], [1674, 3087,  $3^2 \cdot 7^3$ ], [1677, 6084,  $2^2 \cdot 3^2 \cdot 13^2$ ], [1690, 729,  $3^6$ ], [1694, 3267,  $3^3 \cdot 11^2$ ], [1715, 3456,  $2^7 \cdot 3^3$ ], [1742, 729,  $3^6$ ], [1743, 1728,  $2^6 \cdot 3^3$ ], [1760, 1089,  $3^2 \cdot 11^2$ ], [1782, 1089,  $3^2 \cdot 11^2$ ], [1784, 3087,  $3^2 \cdot 7^3$ ], [1787, 6084,  $2^2 \cdot 3^2 \cdot 13^2$ ], [1825, 3456,  $2^7 \cdot 3^3$ ], [1852, 729,  $3^6$ ], [1853, 1728,  $2^6 \cdot 3^3$ ], [1870, 1089,  $3^2 \cdot 11^2$ ], [1892, 1089,  $3^2 \cdot 11^2$ ], [1894, 3087,  $3^2 \cdot 7^3$ ], [1897, 6084,  $2^2 \cdot 3^2 \cdot 13^2$ ], [1904, 2187,  $3^7$ ], [1907, 5184,  $2^6 \cdot 3^4$ ], [1935, 3456,  $2^7 \cdot 3^3$ ], [1962, 729,  $3^6$ ], [1963, 1728,  $2^6 \cdot 3^3$ ], [1980, 1089,  $3^2 \cdot 11^2$ ]

**Les 28 nombres tels que  $n \cdot r = \text{puissance}$  jusqu'à 1000**

[n, n . r, ses facteurs]

[27, 1944,  $2^3 \cdot 3^5$ ], [72, 1944,  $2^3 \cdot 3^5$ ], [100, 100,  $2^2 \cdot 5^2$ ], [144, 63504,  $2^4 \cdot 3^4 \cdot 7^2$ ], [169, 162409,  $13^2 \cdot 31^2$ ], [200, 400,  $2^4 \cdot 5^2$ ], [288, 254016,  $2^6 \cdot 3^4 \cdot 7^2$ ], [297, 235224,  $2^3 \cdot 3^5 \cdot 11^2$ ], [300, 900,  $2^2 \cdot 3^2 \cdot 5^2$ ], [400, 1600,  $2^6 \cdot 5^2$ ], [441, 63504,  $2^4 \cdot 3^4 \cdot 7^2$ ], [450, 24300,  $2^2 \cdot 3^5 \cdot 5^2$ ], [500, 2500,  $2^2 \cdot 5^4$ ], [528, 435600,  $2^4 \cdot 3^2 \cdot 5^2 \cdot 11^2$ ], [540, 24300,  $2^2 \cdot 3^5 \cdot 5^2$ ], [576, 388800,  $2^6 \cdot 3^5 \cdot 5^2$ ], [600, 3600,  $2^4 \cdot 3^2 \cdot 5^2$ ], [675, 388800,  $2^6 \cdot 3^5 \cdot 5^2$ ], [700, 4900,  $2^2 \cdot 5^2 \cdot 7^2$ ], [768, 665856,  $2^8 \cdot 3^2 \cdot 17^2$ ], [792, 235224,  $2^3 \cdot 3^5 \cdot 11^2$ ], [800, 6400,  $2^8 \cdot 5^2$ ], [825, 435600,  $2^4 \cdot 3^2 \cdot 5^2 \cdot 11^2$ ], [867, 665856,  $2^8 \cdot 3^2 \cdot 17^2$ ], [882, 254016,  $2^6 \cdot 3^4 \cdot 7^2$ ], [900, 8100,  $2^2 \cdot 3^4 \cdot 5^2$ ], [961, 162409,  $13^2 \cdot 31^2$ ], [1000, 1000,  $2^3 \cdot 5^3$ ]



**Triangulaire: aucune somme  $n + r$  ou différence  $n - r$  n'est triangulaire.**

**Avec le produit deux cas avec  $n = 1$  et  $n = 10$**

$$10 \times 1 = 10 = 4 \times 5 / 2$$



Haut