



The Dozenal Society of Great Britain

Primes in base twelve

List 1: primes under *600 (omitting 2 and 3)

| | | | |
|-----|-----|-----|-----|
| | 5 | 7 | ε |
| 11 | 15 | 17 | 1ε |
| | 25 | 27 | |
| 31 | 35 | 37 | 3ε |
| | 45 | | 4ε |
| 51 | | 57 | 5ε |
| 61 | | 67 | 6ε |
| | 75 | | |
| 81 | 85 | 87 | 8ε |
| 91 | 95 | | |
| | | 77 | 7ε |
| | ε5 | ε7 | |
| | 105 | 107 | |
| 111 | | 117 | 11ε |
| | 125 | | 12ε |
| 131 | | | 13ε |
| 141 | 145 | 147 | |
| | | 157 | |
| | | 167 | 16ε |
| 171 | 175 | | 17ε |
| 181 | | | 18ε |
| | 195 | | 19ε |
| | 175 | 177 | |
| 1ε1 | 1ε5 | 1ε7 | |
| | 205 | | |
| | | 217 | 21ε |
| 221 | 225 | | |
| | | 237 | |
| 241 | | | 24ε |
| 251 | 255 | | 25ε |
| | | 267 | |
| 271 | | 277 | 27ε |
| | 285 | | |
| 291 | 295 | | |
| 271 | | | 27ε |
| 2ε1 | | | 2εε |

| | | | |
|-----|-----|-----|-----|
| 301 | | 307 | 30E |
| | 315 | | |
| 321 | 325 | 327 | 32E |
| | | | 33E |
| | | 347 | 34E |
| | | 357 | 35E |
| | 365 | | |
| | 375 | 377 | |
| 391 | | 397 | |
| | 3Z5 | | 3ZE |
| | 3E5 | 3E7 | |
| 401 | | | 40E |
| | 415 | | 41E |
| 421 | | 427 | |
| 431 | 435 | 437 | |
| | | 447 | |
| | 455 | 457 | 45E |
| | 465 | | 46E |
| 471 | | | |
| 481 | 485 | | 48E |
| | | 497 | |
| | 4Z5 | | |
| 4E1 | | | 4EE |
| | | 507 | |
| 511 | | 517 | 51E |
| | | 527 | |
| 531 | 535 | | |
| 541 | 545 | | |
| | | 557 | |
| | 565 | | |
| | 575 | 577 | |
| | 585 | 587 | 58E |
| 591 | | | 59E |
| 5E1 | 5E5 | 5E7 | 5EE |

Prime numbers above 3 are confined, in dozenal notation, to the four possible endings 1, 5, 7 and E). They are thus of the form $10n\pm 1$ and $10n\pm 5$.

These four cases are variants of the forms $4n\pm 1$ and $6n\pm 1$, the latter of which have been described in another leaflet.

The Manual of the Dozen System (DSA) points out that each of the four dozenal classifications has its own special characteristics. As an illustration, consider the prime number 7, which is of the form $10n-5$. If we divide 1 by 7 we get as a reciprocal a circulating dozenal of 6 figures [186Z35]. The number of figures in such reciprocals is at most one less than the prime ($p-1$), or it is a factor of ($p-1$). But all of the primes whose reciprocals extend to the full period ($p-1$) occur in the groups $10n\pm 5$. The $10n$ formulæ refine the $4n$ formulæ by eliminating numbers ending in 3 or 9 as composites, although they number one-third of the possible $4n$ cases. This is a good illustration of the special refinements which dozenals offer in number analysis.