

LAPORAN HASIL ENKRIPSI & DEKRIPSI

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PROSES ENKRIPSI EL GAMAL:

Blok 1 - ASCII: 65 ($k = 14$)

$$2^1 \bmod 2579 = 2$$

$$2^2 \bmod 2579 = [2^1 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (2 \times 2) \bmod 2579$$

$$= 4$$

$$2^4 \bmod 2579 = [2^2 \bmod 2579] \times [2^2 \bmod 2579] \bmod 2579$$

$$= (4 \times 4) \bmod 2579$$

$$= 16$$

$$2^8 \bmod 2579 = [2^4 \bmod 2579] \times [2^4 \bmod 2579] \bmod 2579$$

$$= (16 \times 16) \bmod 2579$$

$$= 256$$

Menghitung hasil akhir $2^{14} \bmod 2579$:

$$2^{14} \bmod 2579 = [2^8 \bmod 2579] \times [2^4 \bmod 2579] \times [2^2 \bmod 2579] \bmod 2579$$

$$= (256 \times 16 \times 4) \bmod 2579$$

$$= 16384 \bmod 2579$$

$$= 910$$

$$949^1 \bmod 2579 = 949$$

$$949^2 \bmod 2579 = [949^1 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (949 \times 949) \bmod 2579$$

$$= 530$$

$$949^4 \bmod 2579 = [949^2 \bmod 2579] \times [949^2 \bmod 2579] \bmod 2579$$

$$= (530 \times 530) \bmod 2579$$

$$= 2368$$

$$949^8 \bmod 2579 = [949^4 \bmod 2579] \times [949^4 \bmod 2579] \bmod 2579$$

$$= (2368 \times 2368) \bmod 2579$$

$$= 678$$

Menghitung hasil akhir $949^{14} \bmod 2579$:

$$949^{14} \bmod 2579 = [949^8 \bmod 2579] \times [949^4 \bmod 2579] \times [949^2 \bmod 2579] \bmod 2579$$

$$= (678 \times 2368 \times 530) \bmod 2579$$

$$= 850917120 \bmod 2579$$

$$= 1860$$

$$949^{14} \bmod 2579 = 1860$$

$$949^{14} \times 65 \bmod 2579$$

$$= 120900 \bmod 2579$$

$$= 2266$$

Hasil Enkripsi Blok 1: ASCII (M) = 65, = 910, = 2266

Blok 2 - ASCII: 90 (k = 13)

$$2^1 \bmod 2579 = 2$$

$$2^2 \bmod 2579 = [2^1 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (2 \times 2) \bmod 2579$$

$$= 4$$

$$2^4 \bmod 2579 = [2^2 \bmod 2579] \times [2^2 \bmod 2579] \bmod 2579$$

$$= (4 \times 4) \bmod 2579$$

$$= 16$$

$$2^8 \bmod 2579 = [2^4 \bmod 2579] \times [2^4 \bmod 2579] \bmod 2579$$

$$= (16 \times 16) \bmod 2579$$

$$= 256$$

Menghitung hasil akhir $2^{13} \bmod 2579$:

$$2^{13} \bmod 2579 = [2^8 \bmod 2579] \times [2^4 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (256 \times 16 \times 2) \bmod 2579$$

$$= 8192 \bmod 2579$$

$$= 455$$

$$949^1 \bmod 2579 = 949$$

$$949^2 \bmod 2579 = [949^1 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (949 \times 949) \bmod 2579$$

$$= 530$$

$$949^4 \bmod 2579 = [949^2 \bmod 2579] \times [949^2 \bmod 2579] \bmod 2579$$

$$= (530 \times 530) \bmod 2579$$

$$= 2368$$

$$949^8 \bmod 2579 = [949^4 \bmod 2579] \times [949^4 \bmod 2579] \bmod 2579$$

$$= (2368 \times 2368) \bmod 2579$$

$$= 678$$

Menghitung hasil akhir $949^{13} \bmod 2579$:

$$949^{13} \bmod 2579 = [949^8 \bmod 2579] \times [949^4 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (678 \times 2368 \times 949) \bmod 2579$$

$$= 1523623296 \bmod 2579$$

$$= 1676$$

$$949^{13} \bmod 2579 = 1676$$

$$949^{13} \times 90 \bmod 2579$$

$$= 150840 \bmod 2579$$

$$= 1258$$

Hasil Enkripsi Blok 2: ASCII (M) = 90, = 455, = 1258

Blok 3 - ASCII: 75 (k = 7)

$$2^1 \bmod 2579 = 2$$

$$2^2 \bmod 2579 = [2^1 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (2 \times 2) \bmod 2579$$

$$= 4$$

$$2^4 \bmod 2579 = [2^2 \bmod 2579] \times [2^2 \bmod 2579] \bmod 2579$$

$$= (4 \times 4) \bmod 2579$$

$$= 16$$

Menghitung hasil akhir $2^7 \bmod 2579$:

$$2^7 \bmod 2579 = [2^4 \bmod 2579] \times [2^2 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (16 \times 4 \times 2) \bmod 2579$$

$$= 128 \bmod 2579$$

$$= 128$$

$$949^1 \bmod 2579 = 949$$

$$949^2 \bmod 2579 = [949^1 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (949 \times 949) \bmod 2579$$

$$= 530$$

$$949^4 \bmod 2579 = [949^2 \bmod 2579] \times [949^2 \bmod 2579] \bmod 2579$$

$$= (530 \times 530) \bmod 2579$$

$$= 2368$$

Menghitung hasil akhir $949^7 \bmod 2579$:

$$949^7 \bmod 2579 = [949^4 \bmod 2579] \times [949^2 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (2368 \times 530 \times 949) \bmod 2579$$

$$= 1191032960 \bmod 2579$$

$$= 1759$$

$$949^7 \bmod 2579 = 1759$$

$$949^7 \times 75 \bmod 2579$$

$$= 131925 \bmod 2579$$

$$= 396$$

Hasil Enkripsi Blok 3: ASCII (M) = 75, = 128, = 396

Blok 4 - ASCII: 65 (k = 36)

$$2^1 \bmod 2579 = 2$$

$$2^2 \bmod 2579 = [2^1 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (2 \times 2) \bmod 2579$$

$$= 4$$

$$2^4 \bmod 2579 = [2^2 \bmod 2579] \times [2^2 \bmod 2579] \bmod 2579$$

$$= (4 \times 4) \bmod 2579$$

$$= 16$$

$$2^8 \bmod 2579 = [2^4 \bmod 2579] \times [2^4 \bmod 2579] \bmod 2579$$

$$= (16 \times 16) \bmod 2579$$

$$= 256$$

$$2^{16} \bmod 2579 = [2^8 \bmod 2579] \times [2^8 \bmod 2579] \bmod 2579$$

$$= (256 \times 256) \bmod 2579$$

$$= 1061$$

$$2^{32} \bmod 2579 = [2^{16} \bmod 2579] \times [2^{16} \bmod 2579] \bmod 2579$$

$$= (1061 \times 1061) \bmod 2579$$

$$= 1277$$

Menghitung hasil akhir $2^{36} \bmod 2579$:

$$2^{36} \bmod 2579 = [2^{32} \bmod 2579] \times [2^4 \bmod 2579] \bmod 2579$$

$$= (1277 \times 16) \bmod 2579$$

$$= 20432 \bmod 2579$$

$$= 2379$$

$$949^1 \bmod 2579 = 949$$

$$949^2 \bmod 2579 = [949^1 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (949 \times 949) \bmod 2579$$

$$= 530$$

$$949^4 \bmod 2579 = [949^2 \bmod 2579] \times [949^2 \bmod 2579] \bmod 2579$$

$$= (530 \times 530) \bmod 2579$$

$$= 2368$$

$$949^8 \bmod 2579 = [949^4 \bmod 2579] \times [949^4 \bmod 2579] \bmod 2579$$

$$= (2368 \times 2368) \bmod 2579$$

$$= 678$$

$$949^{16} \bmod 2579 = [949^8 \bmod 2579] \times [949^8 \bmod 2579] \bmod 2579$$

$$= (678 \times 678) \bmod 2579$$

$$= 622$$

$$949^{32} \bmod 2579 = [949^{16} \bmod 2579] \times [949^{16} \bmod 2579] \bmod 2579$$

$$= (622 \times 622) \bmod 2579$$

$$= 34$$

Menghitung hasil akhir $949^{36} \bmod 2579$:

$$949^{36} \bmod 2579 = [949^{32} \bmod 2579] \times [949^4 \bmod 2579] \bmod 2579$$

$$= (34 \times 2368) \bmod 2579$$

$$= 80512 \bmod 2579$$

$$= 563$$

$$949^{36} \bmod 2579 = 563$$

$$949^{36} \times 65 \bmod 2579$$

$$= 36595 \bmod 2579$$

$$= 489$$

Hasil Enkripsi Blok 4: ASCII (M) = 65, = 2379, = 489

Blok 5 - ASCII: 32 (k = 33)

$$2^1 \bmod 2579 = 2$$

$$2^2 \bmod 2579 = [2^1 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (2 \times 2) \bmod 2579$$

$$= 4$$

$$2^4 \bmod 2579 = [2^2 \bmod 2579] \times [2^2 \bmod 2579] \bmod 2579$$

$$= (4 \times 4) \bmod 2579$$

$$= 16$$

$$2^8 \bmod 2579 = [2^4 \bmod 2579] \times [2^4 \bmod 2579] \bmod 2579$$

$$= (16 \times 16) \bmod 2579$$

$$= 256$$

$$2^{16} \bmod 2579 = [2^8 \bmod 2579] \times [2^8 \bmod 2579] \bmod 2579$$

$$= (256 \times 256) \bmod 2579$$

$$= 1061$$

$$2^{32} \bmod 2579 = [2^{16} \bmod 2579] \times [2^{16} \bmod 2579] \bmod 2579$$

$$= (1061 \times 1061) \bmod 2579$$

$$= 1277$$

Menghitung hasil akhir $2^{33} \bmod 2579$:

$$2^{33} \bmod 2579 = [2^{32} \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (1277 \times 2) \bmod 2579$$

$$= 2554 \bmod 2579$$

$$= 2554$$

$$949^1 \bmod 2579 = 949$$

$$949^2 \bmod 2579 = [949^1 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (949 \times 949) \bmod 2579$$

$$= 530$$

$$949^4 \bmod 2579 = [949^2 \bmod 2579] \times [949^2 \bmod 2579] \bmod 2579$$

$$= (530 \times 530) \bmod 2579$$

$$= 2368$$

$$949^8 \bmod 2579 = [949^4 \bmod 2579] \times [949^4 \bmod 2579] \bmod 2579$$

$$= (2368 \times 2368) \bmod 2579$$

$$= 678$$

$$949^{16} \bmod 2579 = [949^8 \bmod 2579] \times [949^8 \bmod 2579] \bmod 2579$$

$$= (678 \times 678) \bmod 2579$$

$$= 622$$

$$949^{32} \bmod 2579 = [949^{16} \bmod 2579] \times [949^{16} \bmod 2579] \bmod 2579$$

$$= (622 \times 622) \bmod 2579$$

$$= 34$$

Menghitung hasil akhir $949^{33} \bmod 2579$:

$$949^{33} \bmod 2579 = [949^{32} \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (34 \times 949) \bmod 2579$$

$$= 32266 \bmod 2579$$

$$= 1318$$

$$949^{33} \bmod 2579 = 1318$$

$$949^{33} \times 32 \bmod 2579$$

$$= 42176 \bmod 2579$$

$$= 912$$

Hasil Enkripsi Blok 5: ASCII (M) = 32, = 2554, = 912

Blok 6 - ASCII: 72 (k = 18)

$$2^1 \bmod 2579 = 2$$

$$2^2 \bmod 2579 = [2^1 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (2 \times 2) \bmod 2579$$

$$= 4$$

$$2^4 \bmod 2579 = [2^2 \bmod 2579] \times [2^2 \bmod 2579] \bmod 2579$$

$$= (4 \times 4) \bmod 2579$$

$$= 16$$

$$2^8 \bmod 2579 = [2^4 \bmod 2579] \times [2^4 \bmod 2579] \bmod 2579$$

$$= (16 \times 16) \bmod 2579$$

$$= 256$$

$$2^{16} \bmod 2579 = [2^8 \bmod 2579] \times [2^8 \bmod 2579] \bmod 2579$$

$$= (256 \times 256) \bmod 2579$$

$$= 1061$$

Menghitung hasil akhir $2^{18} \bmod 2579$:

$$2^{18} \bmod 2579 = [2^{16} \bmod 2579] \times [2^2 \bmod 2579] \bmod 2579$$

$$= (1061 \times 4) \bmod 2579$$

$$= 4244 \bmod 2579$$

$$= 1665$$

$$949^1 \bmod 2579 = 949$$

$$949^2 \bmod 2579 = [949^1 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (949 \times 949) \bmod 2579$$

$$= 530$$

$$949^4 \bmod 2579 = [949^2 \bmod 2579] \times [949^2 \bmod 2579] \bmod 2579$$

$$= (530 \times 530) \bmod 2579$$

$$= 2368$$

$$949^8 \bmod 2579 = [949^4 \bmod 2579] \times [949^4 \bmod 2579] \bmod 2579$$

$$= (2368 \times 2368) \bmod 2579$$

$$= 678$$

$$949^{16} \bmod 2579 = [949^8 \bmod 2579] \times [949^8 \bmod 2579] \bmod 2579$$

$$= (678 \times 678) \bmod 2579$$

$$= 622$$

Menghitung hasil akhir $949^{18} \bmod 2579$:

$$949^{18} \bmod 2579 = [949^{16} \bmod 2579] \times [949^2 \bmod 2579] \bmod 2579$$

$$= (622 \times 530) \bmod 2579$$

$$= 329660 \bmod 2579$$

$$= 2127$$

$$949^{18} \bmod 2579 = 2127$$

$$949^{18} \times 72 \bmod 2579$$

$$= 153144 \bmod 2579$$

$$= 983$$

Hasil Enkripsi Blok 6: ASCII (M) = 72, = 1665, = 983

Blok 7 - ASCII: 65 (k = 9)

$$2^1 \bmod 2579 = 2$$

$$2^2 \bmod 2579 = [2^1 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (2 \times 2) \bmod 2579$$

$$= 4$$

$$2^4 \bmod 2579 = [2^2 \bmod 2579] \times [2^2 \bmod 2579] \bmod 2579$$

$$= (4 \times 4) \bmod 2579$$

$$= 16$$

$$2^8 \bmod 2579 = [2^4 \bmod 2579] \times [2^4 \bmod 2579] \bmod 2579$$

$$= (16 \times 16) \bmod 2579$$

$$= 256$$

Menghitung hasil akhir $2^9 \bmod 2579$:

$$2^9 \bmod 2579 = [2^8 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (256 \times 2) \bmod 2579$$

$$= 512 \bmod 2579$$

$$= 512$$

$$949^1 \bmod 2579 = 949$$

$$949^2 \bmod 2579 = [949^1 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (949 \times 949) \bmod 2579$$

$$= 530$$

$$949^4 \bmod 2579 = [949^2 \bmod 2579] \times [949^2 \bmod 2579] \bmod 2579$$

$$= (530 \times 530) \bmod 2579$$

$$= 2368$$

$$949^8 \bmod 2579 = [949^4 \bmod 2579] \times [949^4 \bmod 2579] \bmod 2579$$

$$= (2368 \times 2368) \bmod 2579$$

$$= 678$$

Menghitung hasil akhir $949^9 \bmod 2579$:

$$949^9 \bmod 2579 = [949^8 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (678 \times 949) \bmod 2579$$

$$= 643422 \bmod 2579$$

$$= 1251$$

$$949^9 \bmod 2579 = 1251$$

$$949^9 \times 65 \bmod 2579$$

$$= 81315 \bmod 2579$$

$$= 1366$$

Hasil Enkripsi Blok 7: ASCII (M) = 65, = 512, = 1366

Blok 8 - ASCII: 70 (k = 45)

$$2^1 \bmod 2579 = 2$$

$$2^2 \bmod 2579 = [2^1 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (2 \times 2) \bmod 2579$$

$$= 4$$

$$2^4 \bmod 2579 = [2^2 \bmod 2579] \times [2^2 \bmod 2579] \bmod 2579$$

$$= (4 \times 4) \bmod 2579$$

$$= 16$$

$$2^8 \bmod 2579 = [2^4 \bmod 2579] \times [2^4 \bmod 2579] \bmod 2579$$

$$= (16 \times 16) \bmod 2579$$

$$= 256$$

$$2^{16} \bmod 2579 = [2^8 \bmod 2579] \times [2^8 \bmod 2579] \bmod 2579$$

$$= (256 \times 256) \bmod 2579$$

$$= 1061$$

$$2^{32} \bmod 2579 = [2^{16} \bmod 2579] \times [2^{16} \bmod 2579] \bmod 2579$$

$$= (1061 \times 1061) \bmod 2579$$

$$= 1277$$

Menghitung hasil akhir $2^{45} \bmod 2579$:

$$2^{45} \bmod 2579 = [2^{32} \bmod 2579] \times [2^8 \bmod 2579] \times [2^4 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (1277 \times 256 \times 16 \times 2) \bmod 2579$$

$$= 10461184 \bmod 2579$$

$$= 760$$

$$949^1 \bmod 2579 = 949$$

$$949^2 \bmod 2579 = [949^1 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (949 \times 949) \bmod 2579$$

$$= 530$$

$$949^4 \bmod 2579 = [949^2 \bmod 2579] \times [949^2 \bmod 2579] \bmod 2579$$

$$= (530 \times 530) \bmod 2579$$

$$= 2368$$

$$949^8 \bmod 2579 = [949^4 \bmod 2579] \times [949^4 \bmod 2579] \bmod 2579$$

$$= (2368 \times 2368) \bmod 2579$$

$$= 678$$

$$949^{16} \bmod 2579 = [949^8 \bmod 2579] \times [949^8 \bmod 2579] \bmod 2579$$

$$= (678 \times 678) \bmod 2579$$

$$= 622$$

$$949^{32} \bmod 2579 = [949^{16} \bmod 2579] \times [949^{16} \bmod 2579] \bmod 2579$$

$$= (622 \times 622) \bmod 2579$$

$$= 34$$

Menghitung hasil akhir $949^{45} \bmod 2579$:

$$949^{45} \bmod 2579 = [949^{32} \bmod 2579] \times [949^8 \bmod 2579] \times [949^4 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (34 \times 678 \times 2368 \times 949) \bmod 2579$$

$$= 51803192064 \bmod 2579$$

$$= 246$$

$$949^{45} \bmod 2579 = 246$$

$$949^{45} \times 70 \bmod 2579$$

$$= 17220 \bmod 2579$$

$$= 1746$$

Hasil Enkripsi Blok 8: ASCII (M) = 70, = 760, = 1746

Blok 9 - ASCII: 73 (k = 40)

$$2^1 \bmod 2579 = 2$$

$$2^2 \bmod 2579 = [2^1 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (2 \times 2) \bmod 2579$$

$$= 4$$

$$2^4 \bmod 2579 = [2^2 \bmod 2579] \times [2^2 \bmod 2579] \bmod 2579$$

$$= (4 \times 4) \bmod 2579$$

$$= 16$$

$$2^8 \bmod 2579 = [2^4 \bmod 2579] \times [2^4 \bmod 2579] \bmod 2579$$

$$= (16 \times 16) \bmod 2579$$

$$= 256$$

$$2^{16} \bmod 2579 = [2^8 \bmod 2579] \times [2^8 \bmod 2579] \bmod 2579$$

$$= (256 \times 256) \bmod 2579$$

$$= 1061$$

$$\begin{aligned}
2^{32} \bmod 2579 &= [2^{16} \bmod 2579] \times [2^{16} \bmod 2579] \bmod 2579 \\
&= (1061 \times 1061) \bmod 2579 \\
&= 1277
\end{aligned}$$

Menghitung hasil akhir $2^{40} \bmod 2579$:

$$\begin{aligned}
2^{40} \bmod 2579 &= [2^{32} \bmod 2579] \times [2^8 \bmod 2579] \bmod 2579 \\
&= (1277 \times 256) \bmod 2579 \\
&= 326912 \bmod 2579 \\
&= 1958
\end{aligned}$$

$$949^1 \bmod 2579 = 949$$

$$\begin{aligned}
949^2 \bmod 2579 &= [949^1 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579 \\
&= (949 \times 949) \bmod 2579 \\
&= 530
\end{aligned}$$

$$\begin{aligned}
949^4 \bmod 2579 &= [949^2 \bmod 2579] \times [949^2 \bmod 2579] \bmod 2579 \\
&= (530 \times 530) \bmod 2579 \\
&= 2368
\end{aligned}$$

$$\begin{aligned}
949^8 \bmod 2579 &= [949^4 \bmod 2579] \times [949^4 \bmod 2579] \bmod 2579 \\
&= (2368 \times 2368) \bmod 2579 \\
&= 678
\end{aligned}$$

$$\begin{aligned}
949^{16} \bmod 2579 &= [949^8 \bmod 2579] \times [949^8 \bmod 2579] \bmod 2579 \\
&= (678 \times 678) \bmod 2579 \\
&= 622
\end{aligned}$$

$$\begin{aligned}
949^{32} \bmod 2579 &= [949^{16} \bmod 2579] \times [949^{16} \bmod 2579] \bmod 2579 \\
&= (622 \times 622) \bmod 2579 \\
&= 34
\end{aligned}$$

Menghitung hasil akhir $949^{40} \bmod 2579$:

$$\begin{aligned}
949^{40} \bmod 2579 &= [949^{32} \bmod 2579] \times [949^8 \bmod 2579] \bmod 2579 \\
&= (34 \times 678) \bmod 2579 \\
&= 23052 \bmod 2579 \\
&= 2420
\end{aligned}$$

$$949^{40} \bmod 2579 = 2420$$

$$949^{40} \times 73 \bmod 2579$$

$$= 176660 \bmod 2579$$

$$= 1288$$

Hasil Enkripsi Blok 9: ASCII (M) = 73, = 1958, = 1288

Blok 10 - ASCII: 89 (k = 43)

$$2^1 \bmod 2579 = 2$$

$$2^2 \bmod 2579 = [2^1 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (2 \times 2) \bmod 2579$$

$$= 4$$

$$2^4 \bmod 2579 = [2^2 \bmod 2579] \times [2^2 \bmod 2579] \bmod 2579$$

$$= (4 \times 4) \bmod 2579$$

$$= 16$$

$$2^8 \bmod 2579 = [2^4 \bmod 2579] \times [2^4 \bmod 2579] \bmod 2579$$

$$= (16 \times 16) \bmod 2579$$

$$= 256$$

$$2^{16} \bmod 2579 = [2^8 \bmod 2579] \times [2^8 \bmod 2579] \bmod 2579$$

$$= (256 \times 256) \bmod 2579$$

$$= 1061$$

$$2^{32} \bmod 2579 = [2^{16} \bmod 2579] \times [2^{16} \bmod 2579] \bmod 2579$$

$$= (1061 \times 1061) \bmod 2579$$

$$= 1277$$

Menghitung hasil akhir $2^{43} \bmod 2579$:

$$2^{43} \bmod 2579 = [2^{32} \bmod 2579] \times [2^8 \bmod 2579] \times [2^2 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (1277 \times 256 \times 4 \times 2) \bmod 2579$$

$$= 2615296 \bmod 2579$$

$$= 190$$

$$949^1 \bmod 2579 = 949$$

$$949^2 \bmod 2579 = [949^1 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (949 \times 949) \bmod 2579$$

$$= 530$$

$$949^4 \bmod 2579 = [949^2 \bmod 2579] \times [949^2 \bmod 2579] \bmod 2579$$

$$= (530 \times 530) \bmod 2579$$

$$= 2368$$

$$949^8 \bmod 2579 = [949^4 \bmod 2579] \times [949^4 \bmod 2579] \bmod 2579$$

$$= (2368 \times 2368) \bmod 2579$$

$$= 678$$

$$949^{16} \bmod 2579 = [949^8 \bmod 2579] \times [949^8 \bmod 2579] \bmod 2579$$

$$= (678 \times 678) \bmod 2579$$

$$= 622$$

$$949^{32} \bmod 2579 = [949^{16} \bmod 2579] \times [949^{16} \bmod 2579] \bmod 2579$$

$$= (622 \times 622) \bmod 2579$$

$$= 34$$

Menghitung hasil akhir $949^{43} \bmod 2579$:

$$949^{43} \bmod 2579 = [949^{32} \bmod 2579] \times [949^8 \bmod 2579] \times [949^2 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (34 \times 678 \times 530 \times 949) \bmod 2579$$

$$= 11594464440 \bmod 2579$$

$$= 2560$$

$$949^{43} \bmod 2579 = 2560$$

$$949^{43} \times 89 \bmod 2579$$

$$= 227840 \bmod 2579$$

$$= 888$$

Hasil Enkripsi Blok 10: ASCII (M) = 89, = 190, = 888

Blok 11 - ASCII: 65 (k = 47)

$$2^1 \bmod 2579 = 2$$

$$2^2 \bmod 2579 = [2^1 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (2 \times 2) \bmod 2579$$

$$= 4$$

$$2^4 \bmod 2579 = [2^2 \bmod 2579] \times [2^2 \bmod 2579] \bmod 2579$$

$$= (4 \times 4) \bmod 2579$$

$$= 16$$

$$2^8 \bmod 2579 = [2^4 \bmod 2579] \times [2^4 \bmod 2579] \bmod 2579$$

$$= (16 \times 16) \bmod 2579$$

$$= 256$$

$$2^{16} \bmod 2579 = [2^8 \bmod 2579] \times [2^8 \bmod 2579] \bmod 2579$$

$$= (256 \times 256) \bmod 2579$$

$$= 1061$$

$$2^{32} \bmod 2579 = [2^{16} \bmod 2579] \times [2^{16} \bmod 2579] \bmod 2579$$

$$= (1061 \times 1061) \bmod 2579$$

$$= 1277$$

Menghitung hasil akhir $2^{47} \bmod 2579$:

$$2^{47} \bmod 2579 = [2^{32} \bmod 2579] \times [2^8 \bmod 2579] \times [2^4 \bmod 2579] \times [2^2 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (1277 \times 256 \times 16 \times 4 \times 2) \bmod 2579$$

$$= 41844736 \bmod 2579$$

$$= 461$$

$$949^1 \bmod 2579 = 949$$

$$949^2 \bmod 2579 = [949^1 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (949 \times 949) \bmod 2579$$

$$= 530$$

$$949^4 \bmod 2579 = [949^2 \bmod 2579] \times [949^2 \bmod 2579] \bmod 2579$$

$$= (530 \times 530) \bmod 2579$$

$$= 2368$$

$$949^8 \bmod 2579 = [949^4 \bmod 2579] \times [949^4 \bmod 2579] \bmod 2579$$

$$= (2368 \times 2368) \bmod 2579$$

$$= 678$$

$$949^{16} \bmod 2579 = [949^8 \bmod 2579] \times [949^8 \bmod 2579] \bmod 2579$$

$$= (678 \times 678) \bmod 2579$$

$$= 622$$

$$949^{32} \bmod 2579 = [949^{16} \bmod 2579] \times [949^{16} \bmod 2579] \bmod 2579$$

$$= (622 \times 622) \bmod 2579$$

$$= 34$$

Menghitung hasil akhir $949^{47} \bmod 2579$:

$$949^{47} \bmod 2579 = [949^{32} \bmod 2579] \times [949^8 \bmod 2579] \times [949^4 \bmod 2579] \times [949^2 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (34 \times 678 \times 2368 \times 530 \times 949) \bmod 2579$$

$$= 27455691793920 \bmod 2579$$

$$= 1430$$

$$949^{47} \bmod 2579 = 1430$$

$$949^{47} \times 65 \bmod 2579$$

$$= 92950 \bmod 2579$$

$$= 106$$

Hasil Enkripsi Blok 11: ASCII (M) = 65, = 461, = 106

Blok 12 - ASCII: 78 (k = 15)

$$2^1 \bmod 2579 = 2$$

$$2^2 \bmod 2579 = [2^1 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (2 \times 2) \bmod 2579$$

$$= 4$$

$$2^4 \bmod 2579 = [2^2 \bmod 2579] \times [2^2 \bmod 2579] \bmod 2579$$

$$= (4 \times 4) \bmod 2579$$

$$= 16$$

$$2^8 \bmod 2579 = [2^4 \bmod 2579] \times [2^4 \bmod 2579] \bmod 2579$$

$$= (16 \times 16) \bmod 2579$$

$$= 256$$

Menghitung hasil akhir $2^{15} \bmod 2579$:

$$2^{15} \bmod 2579 = [2^8 \bmod 2579] \times [2^4 \bmod 2579] \times [2^2 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (256 \times 16 \times 4 \times 2) \bmod 2579$$

$$= 32768 \bmod 2579$$

$$= 1820$$

$$949^1 \bmod 2579 = 949$$

$$949^2 \bmod 2579 = [949^1 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (949 \times 949) \bmod 2579$$

$$= 530$$

$$949^4 \bmod 2579 = [949^2 \bmod 2579] \times [949^2 \bmod 2579] \bmod 2579$$

$$= (530 \times 530) \bmod 2579$$

$$= 2368$$

$$949^8 \bmod 2579 = [949^4 \bmod 2579] \times [949^4 \bmod 2579] \bmod 2579$$

$$= (2368 \times 2368) \bmod 2579$$

$$= 678$$

Menghitung hasil akhir $949^{15} \bmod 2579$:

$$949^{15} \bmod 2579 = [949^8 \bmod 2579] \times [949^4 \bmod 2579] \times [949^2 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (678 \times 2368 \times 530 \times 949) \bmod 2579$$

$$= 807520346880 \bmod 2579$$

$$= 1104$$

$$949^{15} \bmod 2579 = 1104$$

$$949^{15} \times 78 \bmod 2579$$

$$= 86112 \bmod 2579$$

$$= 1005$$

Hasil Enkripsi Blok 12: ASCII (M) = 78, = 1820, = 1005

Blok 13 - ASCII: 32 (k = 5)

$$2^1 \bmod 2579 = 2$$

$$2^2 \bmod 2579 = [2^1 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (2 \times 2) \bmod 2579$$

$$= 4$$

$$2^4 \bmod 2579 = [2^2 \bmod 2579] \times [2^2 \bmod 2579] \bmod 2579$$

$$= (4 \times 4) \bmod 2579$$

$$= 16$$

Menghitung hasil akhir $2^5 \bmod 2579$:

$$2^5 \bmod 2579 = [2^4 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (16 \times 2) \bmod 2579$$

$$= 32 \bmod 2579$$

$$= 32$$

$$949^1 \bmod 2579 = 949$$

$$949^2 \bmod 2579 = [949^1 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (949 \times 949) \bmod 2579$$

$$= 530$$

$$949^4 \bmod 2579 = [949^2 \bmod 2579] \times [949^2 \bmod 2579] \bmod 2579$$

$$= (530 \times 530) \bmod 2579$$

$$= 2368$$

Menghitung hasil akhir $949^5 \bmod 2579$:

$$949^5 \bmod 2579 = [949^4 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (2368 \times 949) \bmod 2579$$

$$= 2247232 \bmod 2579$$

$$= 923$$

$$949^5 \bmod 2579 = 923$$

$$949^5 \times 32 \bmod 2579$$

$$= 29536 \bmod 2579$$

$$= 1167$$

Hasil Enkripsi Blok 13: ASCII (M) = 32, = 32, = 1167

Blok 14 - ASCII: 75 (k = 4)

$$2^1 \bmod 2579 = 2$$

$$2^2 \bmod 2579 = [2^1 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (2 \times 2) \bmod 2579$$

$$= 4$$

$$2^4 \bmod 2579 = [2^2 \bmod 2579] \times [2^2 \bmod 2579] \bmod 2579$$

$$= (4 \times 4) \bmod 2579$$

$$= 16$$

$$949^1 \bmod 2579 = 949$$

$$949^2 \bmod 2579 = [949^1 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (949 \times 949) \bmod 2579$$

$$= 530$$

$$949^4 \bmod 2579 = [949^2 \bmod 2579] \times [949^2 \bmod 2579] \bmod 2579$$

$$= (530 \times 530) \bmod 2579$$

$$= 2368$$

$$949^4 \bmod 2579 = 2368$$

$$949^4 \times 75 \bmod 2579$$

$$= 177600 \bmod 2579$$

$$= 2228$$

Hasil Enkripsi Blok 14: ASCII (M) = 75, = 16, = 2228

Blok 15 - ASCII: 65 (k = 24)

$$2^1 \bmod 2579 = 2$$

$$2^2 \bmod 2579 = [2^1 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (2 \times 2) \bmod 2579$$

$$= 4$$

$$2^4 \bmod 2579 = [2^2 \bmod 2579] \times [2^2 \bmod 2579] \bmod 2579$$

$$= (4 \times 4) \bmod 2579$$

$$= 16$$

$$2^8 \bmod 2579 = [2^4 \bmod 2579] \times [2^4 \bmod 2579] \bmod 2579$$

$$= (16 \times 16) \bmod 2579$$

$$= 256$$

$$2^{16} \bmod 2579 = [2^8 \bmod 2579] \times [2^8 \bmod 2579] \bmod 2579$$

$$= (256 \times 256) \bmod 2579$$

$$= 1061$$

Menghitung hasil akhir $2^{24} \bmod 2579$:

$$2^{24} \bmod 2579 = [2^{16} \bmod 2579] \times [2^8 \bmod 2579] \bmod 2579$$

$$= (1061 \times 256) \bmod 2579$$

$$= 271616 \bmod 2579$$

$$= 821$$

$$949^1 \bmod 2579 = 949$$

$$949^2 \bmod 2579 = [949^1 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (949 \times 949) \bmod 2579$$

$$= 530$$

$$949^4 \bmod 2579 = [949^2 \bmod 2579] \times [949^2 \bmod 2579] \bmod 2579$$

$$= (530 \times 530) \bmod 2579$$

$$= 2368$$

$$949^8 \bmod 2579 = [949^4 \bmod 2579] \times [949^4 \bmod 2579] \bmod 2579$$

$$= (2368 \times 2368) \bmod 2579$$

$$= 678$$

$$949^{16} \bmod 2579 = [949^8 \bmod 2579] \times [949^8 \bmod 2579] \bmod 2579$$

$$= (678 \times 678) \bmod 2579$$

$$= 622$$

Menghitung hasil akhir $949^{24} \bmod 2579$:

$$949^{24} \bmod 2579 = [949^{16} \bmod 2579] \times [949^8 \bmod 2579] \bmod 2579$$

$$= (622 \times 678) \bmod 2579$$

$$= 421716 \bmod 2579$$

$$= 1339$$

$$949^{24} \bmod 2579 = 1339$$

$$949^{24} \times 65 \bmod 2579$$

$$= 87035 \bmod 2579$$

$$= 1928$$

Hasil Enkripsi Blok 15: ASCII (M) = 65, = 821, = 1928

Blok 16 - ASCII: 72 (k = 13)

$$2^1 \bmod 2579 = 2$$

$$2^2 \bmod 2579 = [2^1 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (2 \times 2) \bmod 2579$$

$$= 4$$

$$2^4 \bmod 2579 = [2^2 \bmod 2579] \times [2^2 \bmod 2579] \bmod 2579$$

$$= (4 \times 4) \bmod 2579$$

$$= 16$$

$$2^8 \bmod 2579 = [2^4 \bmod 2579] \times [2^4 \bmod 2579] \bmod 2579$$

$$= (16 \times 16) \bmod 2579$$

$$= 256$$

Menghitung hasil akhir $2^{13} \bmod 2579$:

$$2^{13} \bmod 2579 = [2^8 \bmod 2579] \times [2^4 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (256 \times 16 \times 2) \bmod 2579$$

$$= 8192 \bmod 2579$$

$$= 455$$

$$949^1 \bmod 2579 = 949$$

$$949^2 \bmod 2579 = [949^1 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (949 \times 949) \bmod 2579$$

$$= 530$$

$$949^4 \bmod 2579 = [949^2 \bmod 2579] \times [949^2 \bmod 2579] \bmod 2579$$

$$= (530 \times 530) \bmod 2579$$

$$= 2368$$

$$949^8 \bmod 2579 = [949^4 \bmod 2579] \times [949^4 \bmod 2579] \bmod 2579$$

$$= (2368 \times 2368) \bmod 2579$$

$$= 678$$

Menghitung hasil akhir $949^{13} \bmod 2579$:

$$949^{13} \bmod 2579 = [949^8 \bmod 2579] \times [949^4 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (678 \times 2368 \times 949) \bmod 2579$$

$$= 1523623296 \bmod 2579$$

$$= 1676$$

$$949^{13} \bmod 2579 = 1676$$

$$949^{13} \times 72 \bmod 2579$$

$$= 120672 \bmod 2579$$

$$= 2038$$

Hasil Enkripsi Blok 16: ASCII (M) = 72, = 455, = 2038

Blok 17 - ASCII: 70 (k = 36)

$$2^1 \bmod 2579 = 2$$

$$2^2 \bmod 2579 = [2^1 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (2 \times 2) \bmod 2579$$

$$= 4$$

$$2^4 \bmod 2579 = [2^2 \bmod 2579] \times [2^2 \bmod 2579] \bmod 2579$$

$$= (4 \times 4) \bmod 2579$$

$$= 16$$

$$2^8 \bmod 2579 = [2^4 \bmod 2579] \times [2^4 \bmod 2579] \bmod 2579$$

$$= (16 \times 16) \bmod 2579$$

$$= 256$$

$$2^{16} \bmod 2579 = [2^8 \bmod 2579] \times [2^8 \bmod 2579] \bmod 2579$$

$$= (256 \times 256) \bmod 2579$$

$$= 1061$$

$$2^{32} \bmod 2579 = [2^{16} \bmod 2579] \times [2^{16} \bmod 2579] \bmod 2579$$

$$= (1061 \times 1061) \bmod 2579$$

$$= 1277$$

Menghitung hasil akhir $2^{36} \bmod 2579$:

$$2^{36} \bmod 2579 = [2^{32} \bmod 2579] \times [2^4 \bmod 2579] \bmod 2579$$

$$= (1277 \times 16) \bmod 2579$$

$$= 20432 \bmod 2579$$

$$= 2379$$

$$949^1 \bmod 2579 = 949$$

$$949^2 \bmod 2579 = [949^1 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (949 \times 949) \bmod 2579$$

$$= 530$$

$$949^4 \bmod 2579 = [949^2 \bmod 2579] \times [949^2 \bmod 2579] \bmod 2579$$

$$= (530 \times 530) \bmod 2579$$

$$= 2368$$

$$949^8 \bmod 2579 = [949^4 \bmod 2579] \times [949^4 \bmod 2579] \bmod 2579$$

$$= (2368 \times 2368) \bmod 2579$$

$$= 678$$

$$949^{16} \bmod 2579 = [949^8 \bmod 2579] \times [949^8 \bmod 2579] \bmod 2579$$

$$= (678 \times 678) \bmod 2579$$

$$= 622$$

$$949^{32} \bmod 2579 = [949^{16} \bmod 2579] \times [949^{16} \bmod 2579] \bmod 2579$$

$$= (622 \times 622) \bmod 2579$$

$$= 34$$

Menghitung hasil akhir $949^{36} \bmod 2579$:

$$949^{36} \bmod 2579 = [949^{32} \bmod 2579] \times [949^4 \bmod 2579] \bmod 2579$$

$$= (34 \times 2368) \bmod 2579$$

$$= 80512 \bmod 2579$$

$$= 563$$

$$949^{36} \bmod 2579 = 563$$

$$949^{36} \times 70 \bmod 2579$$

$$= 39410 \bmod 2579$$

$$= 725$$

Hasil Enkripsi Blok 17: ASCII (M) = 70, = 2379, = 725

Blok 18 - ASCII: 73 (k = 3)

$$2^1 \bmod 2579 = 2$$

$$\begin{aligned}
2^2 \bmod 2579 &= [2^1 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579 \\
&= (2 \times 2) \bmod 2579 \\
&= 4
\end{aligned}$$

Menghitung hasil akhir $2^3 \bmod 2579$:

$$\begin{aligned}
2^3 \bmod 2579 &= [2^2 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579 \\
&= (4 \times 2) \bmod 2579 \\
&= 8 \bmod 2579 \\
&= 8
\end{aligned}$$

$$949^1 \bmod 2579 = 949$$

$$\begin{aligned}
949^2 \bmod 2579 &= [949^1 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579 \\
&= (949 \times 949) \bmod 2579 \\
&= 530
\end{aligned}$$

Menghitung hasil akhir $949^3 \bmod 2579$:

$$\begin{aligned}
949^3 \bmod 2579 &= [949^2 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579 \\
&= (530 \times 949) \bmod 2579 \\
&= 502970 \bmod 2579 \\
&= 65
\end{aligned}$$

$$949^3 \bmod 2579 = 65$$

$$\begin{aligned}
949^3 \times 73 \bmod 2579 \\
&= 4745 \bmod 2579 \\
&= 2166
\end{aligned}$$

Hasil Enkripsi Blok 18: ASCII (M) = 73, = 8, = 2166

Blok 19 - ASCII: 32 (k = 9)

$$2^1 \bmod 2579 = 2$$

$$\begin{aligned}
2^2 \bmod 2579 &= [2^1 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579 \\
&= (2 \times 2) \bmod 2579 \\
&= 4
\end{aligned}$$

$$\begin{aligned}
2^4 \bmod 2579 &= [2^2 \bmod 2579] \times [2^2 \bmod 2579] \bmod 2579 \\
&= (4 \times 4) \bmod 2579
\end{aligned}$$

$$= 16$$

$$2^8 \bmod 2579 = [2^4 \bmod 2579] \times [2^4 \bmod 2579] \bmod 2579$$

$$= (16 \times 16) \bmod 2579$$

$$= 256$$

Menghitung hasil akhir $2^9 \bmod 2579$:

$$2^9 \bmod 2579 = [2^8 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (256 \times 2) \bmod 2579$$

$$= 512 \bmod 2579$$

$$= 512$$

$$949^1 \bmod 2579 = 949$$

$$949^2 \bmod 2579 = [949^1 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (949 \times 949) \bmod 2579$$

$$= 530$$

$$949^4 \bmod 2579 = [949^2 \bmod 2579] \times [949^2 \bmod 2579] \bmod 2579$$

$$= (530 \times 530) \bmod 2579$$

$$= 2368$$

$$949^8 \bmod 2579 = [949^4 \bmod 2579] \times [949^4 \bmod 2579] \bmod 2579$$

$$= (2368 \times 2368) \bmod 2579$$

$$= 678$$

Menghitung hasil akhir $949^9 \bmod 2579$:

$$949^9 \bmod 2579 = [949^8 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (678 \times 949) \bmod 2579$$

$$= 643422 \bmod 2579$$

$$= 1251$$

$$949^9 \bmod 2579 = 1251$$

$$949^9 \times 32 \bmod 2579$$

$$= 40032 \bmod 2579$$

$$= 1347$$

Hasil Enkripsi Blok 19: ASCII (M) = 32, = 512, = 1347

Blok 20 - ASCII: 65 ($k = 29$)

$$2^1 \bmod 2579 = 2$$

$$2^2 \bmod 2579 = [2^1 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (2 \times 2) \bmod 2579$$

$$= 4$$

$$2^4 \bmod 2579 = [2^2 \bmod 2579] \times [2^2 \bmod 2579] \bmod 2579$$

$$= (4 \times 4) \bmod 2579$$

$$= 16$$

$$2^8 \bmod 2579 = [2^4 \bmod 2579] \times [2^4 \bmod 2579] \bmod 2579$$

$$= (16 \times 16) \bmod 2579$$

$$= 256$$

$$2^{16} \bmod 2579 = [2^8 \bmod 2579] \times [2^8 \bmod 2579] \bmod 2579$$

$$= (256 \times 256) \bmod 2579$$

$$= 1061$$

Menghitung hasil akhir $2^{29} \bmod 2579$:

$$2^{29} \bmod 2579 = [2^{16} \bmod 2579] \times [2^8 \bmod 2579] \times [2^4 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (1061 \times 256 \times 16 \times 2) \bmod 2579$$

$$= 8691712 \bmod 2579$$

$$= 482$$

$$949^1 \bmod 2579 = 949$$

$$949^2 \bmod 2579 = [949^1 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (949 \times 949) \bmod 2579$$

$$= 530$$

$$949^4 \bmod 2579 = [949^2 \bmod 2579] \times [949^2 \bmod 2579] \bmod 2579$$

$$= (530 \times 530) \bmod 2579$$

$$= 2368$$

$$949^8 \bmod 2579 = [949^4 \bmod 2579] \times [949^4 \bmod 2579] \bmod 2579$$

$$= (2368 \times 2368) \bmod 2579$$

$$= 678$$

$$949^{16} \bmod 2579 = [949^8 \bmod 2579] \times [949^8 \bmod 2579] \bmod 2579$$

$$= (678 \times 678) \bmod 2579$$

$$= 622$$

Menghitung hasil akhir $949^{29} \bmod 2579$:

$$949^{29} \bmod 2579 = [949^{16} \bmod 2579] \times [949^8 \bmod 2579] \times [949^4 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (622 \times 678 \times 2368 \times 949) \bmod 2579$$

$$= 947693690112 \bmod 2579$$

$$= 556$$

$$949^{29} \bmod 2579 = 556$$

$$949^{29} \times 65 \bmod 2579$$

$$= 36140 \bmod 2579$$

$$= 34$$

Hasil Enkripsi Blok 20: ASCII (M) = 65, = 482, = 34

Blok 21 - ASCII: 72 (k = 23)

$$2^1 \bmod 2579 = 2$$

$$2^2 \bmod 2579 = [2^1 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (2 \times 2) \bmod 2579$$

$$= 4$$

$$2^4 \bmod 2579 = [2^2 \bmod 2579] \times [2^2 \bmod 2579] \bmod 2579$$

$$= (4 \times 4) \bmod 2579$$

$$= 16$$

$$2^8 \bmod 2579 = [2^4 \bmod 2579] \times [2^4 \bmod 2579] \bmod 2579$$

$$= (16 \times 16) \bmod 2579$$

$$= 256$$

$$2^{16} \bmod 2579 = [2^8 \bmod 2579] \times [2^8 \bmod 2579] \bmod 2579$$

$$= (256 \times 256) \bmod 2579$$

$$= 1061$$

Menghitung hasil akhir $2^{23} \bmod 2579$:

$$2^{23} \bmod 2579 = [2^{16} \bmod 2579] \times [2^4 \bmod 2579] \times [2^2 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (1061 \times 16 \times 4 \times 2) \bmod 2579$$

$$= 135808 \bmod 2579$$

$$= 1700$$

$$949^1 \bmod 2579 = 949$$

$$949^2 \bmod 2579 = [949^1 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (949 \times 949) \bmod 2579$$

$$= 530$$

$$949^4 \bmod 2579 = [949^2 \bmod 2579] \times [949^2 \bmod 2579] \bmod 2579$$

$$= (530 \times 530) \bmod 2579$$

$$= 2368$$

$$949^8 \bmod 2579 = [949^4 \bmod 2579] \times [949^4 \bmod 2579] \bmod 2579$$

$$= (2368 \times 2368) \bmod 2579$$

$$= 678$$

$$949^{16} \bmod 2579 = [949^8 \bmod 2579] \times [949^8 \bmod 2579] \bmod 2579$$

$$= (678 \times 678) \bmod 2579$$

$$= 622$$

Menghitung hasil akhir $949^{23} \bmod 2579$:

$$949^{23} \bmod 2579 = [949^{16} \bmod 2579] \times [949^4 \bmod 2579] \times [949^2 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (622 \times 2368 \times 530 \times 949) \bmod 2579$$

$$= 740822501120 \bmod 2579$$

$$= 602$$

$$949^{23} \bmod 2579 = 602$$

$$949^{23} \times 72 \bmod 2579$$

$$= 43344 \bmod 2579$$

$$= 2080$$

Hasil Enkripsi Blok 21: ASCII (M) = 72, = 1700, = 2080

Blok 22 - ASCII: 83 (k = 33)

$$2^1 \bmod 2579 = 2$$

$$\begin{aligned} 2^2 \bmod 2579 &= [2^1 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579 \\ &= (2 \times 2) \bmod 2579 \\ &= 4 \end{aligned}$$

$$\begin{aligned} 2^4 \bmod 2579 &= [2^2 \bmod 2579] \times [2^2 \bmod 2579] \bmod 2579 \\ &= (4 \times 4) \bmod 2579 \\ &= 16 \end{aligned}$$

$$\begin{aligned} 2^8 \bmod 2579 &= [2^4 \bmod 2579] \times [2^4 \bmod 2579] \bmod 2579 \\ &= (16 \times 16) \bmod 2579 \\ &= 256 \end{aligned}$$

$$\begin{aligned} 2^{16} \bmod 2579 &= [2^8 \bmod 2579] \times [2^8 \bmod 2579] \bmod 2579 \\ &= (256 \times 256) \bmod 2579 \\ &= 1061 \end{aligned}$$

$$\begin{aligned} 2^{32} \bmod 2579 &= [2^{16} \bmod 2579] \times [2^{16} \bmod 2579] \bmod 2579 \\ &= (1061 \times 1061) \bmod 2579 \\ &= 1277 \end{aligned}$$

Menghitung hasil akhir $2^{33} \bmod 2579$:

$$\begin{aligned} 2^{33} \bmod 2579 &= [2^{32} \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579 \\ &= (1277 \times 2) \bmod 2579 \\ &= 2554 \bmod 2579 \\ &= 2554 \end{aligned}$$

$$949^1 \bmod 2579 = 949$$

$$\begin{aligned} 949^2 \bmod 2579 &= [949^1 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579 \\ &= (949 \times 949) \bmod 2579 \\ &= 530 \end{aligned}$$

$$\begin{aligned} 949^4 \bmod 2579 &= [949^2 \bmod 2579] \times [949^2 \bmod 2579] \bmod 2579 \\ &= (530 \times 530) \bmod 2579 \\ &= 2368 \end{aligned}$$

$$949^8 \bmod 2579 = [949^4 \bmod 2579] \times [949^4 \bmod 2579] \bmod 2579$$

$$= (2368 \times 2368) \bmod 2579$$

$$= 678$$

$$949^{16} \bmod 2579 = [949^8 \bmod 2579] \times [949^8 \bmod 2579] \bmod 2579$$

$$= (678 \times 678) \bmod 2579$$

$$= 622$$

$$949^{32} \bmod 2579 = [949^{16} \bmod 2579] \times [949^{16} \bmod 2579] \bmod 2579$$

$$= (622 \times 622) \bmod 2579$$

$$= 34$$

Menghitung hasil akhir $949^{33} \bmod 2579$:

$$949^{33} \bmod 2579 = [949^{32} \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (34 \times 949) \bmod 2579$$

$$= 32266 \bmod 2579$$

$$= 1318$$

$$949^{33} \bmod 2579 = 1318$$

$$949^{33} \times 83 \bmod 2579$$

$$= 109394 \bmod 2579$$

$$= 1076$$

Hasil Enkripsi Blok 22: ASCII (M) = 83, = 2554, = 1076

Blok 23 - ASCII: 72 (k = 25)

$$2^1 \bmod 2579 = 2$$

$$2^2 \bmod 2579 = [2^1 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (2 \times 2) \bmod 2579$$

$$= 4$$

$$2^4 \bmod 2579 = [2^2 \bmod 2579] \times [2^2 \bmod 2579] \bmod 2579$$

$$= (4 \times 4) \bmod 2579$$

$$= 16$$

$$2^8 \bmod 2579 = [2^4 \bmod 2579] \times [2^4 \bmod 2579] \bmod 2579$$

$$= (16 \times 16) \bmod 2579$$

$$= 256$$

$$2^{16} \bmod 2579 = [2^8 \bmod 2579] \times [2^8 \bmod 2579] \bmod 2579$$

$$= (256 \times 256) \bmod 2579$$

$$= 1061$$

Menghitung hasil akhir $2^{25} \bmod 2579$:

$$2^{25} \bmod 2579 = [2^{16} \bmod 2579] \times [2^8 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (1061 \times 256 \times 2) \bmod 2579$$

$$= 543232 \bmod 2579$$

$$= 1642$$

$$949^1 \bmod 2579 = 949$$

$$949^2 \bmod 2579 = [949^1 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (949 \times 949) \bmod 2579$$

$$= 530$$

$$949^4 \bmod 2579 = [949^2 \bmod 2579] \times [949^2 \bmod 2579] \bmod 2579$$

$$= (530 \times 530) \bmod 2579$$

$$= 2368$$

$$949^8 \bmod 2579 = [949^4 \bmod 2579] \times [949^4 \bmod 2579] \bmod 2579$$

$$= (2368 \times 2368) \bmod 2579$$

$$= 678$$

$$949^{16} \bmod 2579 = [949^8 \bmod 2579] \times [949^8 \bmod 2579] \bmod 2579$$

$$= (678 \times 678) \bmod 2579$$

$$= 622$$

Menghitung hasil akhir $949^{25} \bmod 2579$:

$$949^{25} \bmod 2579 = [949^{16} \bmod 2579] \times [949^8 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (622 \times 678 \times 949) \bmod 2579$$

$$= 400208484 \bmod 2579$$

$$= 1843$$

$$949^{25} \bmod 2579 = 1843$$

$$949^{25} \times 72 \bmod 2579$$

$$= 132696 \bmod 2579$$

$$= 1167$$

Hasil Enkripsi Blok 23: ASCII (M) = 72, = 1642, = 1167

Blok 24 - ASCII: 79 (k = 15)

$$2^1 \bmod 2579 = 2$$

$$2^2 \bmod 2579 = [2^1 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (2 \times 2) \bmod 2579$$

$$= 4$$

$$2^4 \bmod 2579 = [2^2 \bmod 2579] \times [2^2 \bmod 2579] \bmod 2579$$

$$= (4 \times 4) \bmod 2579$$

$$= 16$$

$$2^8 \bmod 2579 = [2^4 \bmod 2579] \times [2^4 \bmod 2579] \bmod 2579$$

$$= (16 \times 16) \bmod 2579$$

$$= 256$$

Menghitung hasil akhir $2^{15} \bmod 2579$:

$$2^{15} \bmod 2579 = [2^8 \bmod 2579] \times [2^4 \bmod 2579] \times [2^2 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (256 \times 16 \times 4 \times 2) \bmod 2579$$

$$= 32768 \bmod 2579$$

$$= 1820$$

$$949^1 \bmod 2579 = 949$$

$$949^2 \bmod 2579 = [949^1 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (949 \times 949) \bmod 2579$$

$$= 530$$

$$949^4 \bmod 2579 = [949^2 \bmod 2579] \times [949^2 \bmod 2579] \bmod 2579$$

$$= (530 \times 530) \bmod 2579$$

$$= 2368$$

$$949^8 \bmod 2579 = [949^4 \bmod 2579] \times [949^4 \bmod 2579] \bmod 2579$$

$$= (2368 \times 2368) \bmod 2579$$

$$= 678$$

Menghitung hasil akhir $949^{15} \bmod 2579$:

$$949^{15} \bmod 2579 = [949^8 \bmod 2579] \times [949^4 \bmod 2579] \times [949^2 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (678 \times 2368 \times 530 \times 949) \bmod 2579$$

$$= 807520346880 \bmod 2579$$

$$= 1104$$

$$949^{15} \bmod 2579 = 1104$$

$$949^{15} \times 79 \bmod 2579$$

$$= 87216 \bmod 2579$$

$$= 2109$$

Hasil Enkripsi Blok 24: ASCII (M) = 79, = 1820, = 2109

Blok 25 - ASCII: 78 (k = 3)

$$2^1 \bmod 2579 = 2$$

$$2^2 \bmod 2579 = [2^1 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (2 \times 2) \bmod 2579$$

$$= 4$$

Menghitung hasil akhir $2^3 \bmod 2579$:

$$2^3 \bmod 2579 = [2^2 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (4 \times 2) \bmod 2579$$

$$= 8 \bmod 2579$$

$$= 8$$

$$949^1 \bmod 2579 = 949$$

$$949^2 \bmod 2579 = [949^1 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (949 \times 949) \bmod 2579$$

$$= 530$$

Menghitung hasil akhir $949^3 \bmod 2579$:

$$949^3 \bmod 2579 = [949^2 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (530 \times 949) \bmod 2579$$

$$= 502970 \bmod 2579$$

$$= 65$$

$$949^3 \bmod 2579 = 65$$

$$949^3 \times 78 \bmod 2579$$

$$= 5070 \bmod 2579$$

$$= 2491$$

Hasil Enkripsi Blok 25: ASCII (M) = 78, = 8, = 2491

Blok 26 - ASCII: 73 (k = 20)

$$2^1 \bmod 2579 = 2$$

$$2^2 \bmod 2579 = [2^1 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (2 \times 2) \bmod 2579$$

$$= 4$$

$$2^4 \bmod 2579 = [2^2 \bmod 2579] \times [2^2 \bmod 2579] \bmod 2579$$

$$= (4 \times 4) \bmod 2579$$

$$= 16$$

$$2^8 \bmod 2579 = [2^4 \bmod 2579] \times [2^4 \bmod 2579] \bmod 2579$$

$$= (16 \times 16) \bmod 2579$$

$$= 256$$

$$2^{16} \bmod 2579 = [2^8 \bmod 2579] \times [2^8 \bmod 2579] \bmod 2579$$

$$= (256 \times 256) \bmod 2579$$

$$= 1061$$

Menghitung hasil akhir $2^{20} \bmod 2579$:

$$2^{20} \bmod 2579 = [2^{16} \bmod 2579] \times [2^4 \bmod 2579] \bmod 2579$$

$$= (1061 \times 16) \bmod 2579$$

$$= 16976 \bmod 2579$$

$$= 1502$$

$$949^1 \bmod 2579 = 949$$

$$949^2 \bmod 2579 = [949^1 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (949 \times 949) \bmod 2579$$

$$= 530$$

$$949^4 \bmod 2579 = [949^2 \bmod 2579] \times [949^2 \bmod 2579] \bmod 2579$$

$$= (530 \times 530) \bmod 2579$$

$$= 2368$$

$$949^8 \bmod 2579 = [949^4 \bmod 2579] \times [949^4 \bmod 2579] \bmod 2579$$

$$= (2368 \times 2368) \bmod 2579$$

$$= 678$$

$$949^{16} \bmod 2579 = [949^8 \bmod 2579] \times [949^8 \bmod 2579] \bmod 2579$$

$$= (678 \times 678) \bmod 2579$$

$$= 622$$

Menghitung hasil akhir $949^{20} \bmod 2579$:

$$949^{20} \bmod 2579 = [949^{16} \bmod 2579] \times [949^4 \bmod 2579] \bmod 2579$$

$$= (622 \times 2368) \bmod 2579$$

$$= 1472896 \bmod 2579$$

$$= 287$$

$$949^{20} \bmod 2579 = 287$$

$$949^{20} \times 73 \bmod 2579$$

$$= 20951 \bmod 2579$$

$$= 319$$

Hasil Enkripsi Blok 26: ASCII (M) = 73, = 1502, = 319

ChipherText:

(910, 2266) (455, 1258) (128, 396) (2379, 489) (2554, 912) (1665, 983) (512, 1366) (760, 1746)

(1958, 1288) (190, 888) (461, 106) (1820, 1005) (32, 1167) (16, 2228) (821, 1928) (455, 2038)

(2379, 725) (8, 2166) (512, 1347) (482, 34) (1700, 2080) (2554, 1076) (1642, 1167) (1820, 2109)

(8, 2491) (1502, 319)

PROSES DEKRIPSI EL GAMAL

Blok 1 - Dekripsi dengan = 910, = 2266

$$910^1 \bmod 2579 = 910$$

$$910^2 \bmod 2579 = [910^1 \bmod 2579] \times [910^1 \bmod 2579] \bmod 2579$$

$$= (910 \times 910) \bmod 2579$$

$$= 828100 \bmod 2579$$

$$= 241$$

$$910^4 \bmod 2579 = [910^2 \bmod 2579] \times [910^2 \bmod 2579] \bmod 2579$$

$$= (241 \times 241) \bmod 2579$$

$$= 58081 \bmod 2579$$

$$= 1343$$

$$910^8 \bmod 2579 = [910^4 \bmod 2579] \times [910^4 \bmod 2579] \bmod 2579$$

$$= (1343 \times 1343) \bmod 2579$$

$$= 1803649 \bmod 2579$$

$$= 928$$

$$910^{16} \bmod 2579 = [910^8 \bmod 2579] \times [910^8 \bmod 2579] \bmod 2579$$

$$= (928 \times 928) \bmod 2579$$

$$= 861184 \bmod 2579$$

$$= 2377$$

$$910^{32} \bmod 2579 = [910^{16} \bmod 2579] \times [910^{16} \bmod 2579] \bmod 2579$$

$$= (2377 \times 2377) \bmod 2579$$

$$= 5650129 \bmod 2579$$

$$= 2119$$

$$910^{64} \bmod 2579 = [910^{32} \bmod 2579] \times [910^{32} \bmod 2579] \bmod 2579$$

$$= (2119 \times 2119) \bmod 2579$$

$$= 4490161 \bmod 2579$$

$$= 122$$

$$910^{128} \bmod 2579 = [910^{64} \bmod 2579] \times [910^{64} \bmod 2579] \bmod 2579$$

$$= (122 \times 122) \bmod 2579$$

$$= 14884 \bmod 2579$$

$$= 1989$$

$$\begin{aligned}
910^{256} \bmod 2579 &= [910^{128} \bmod 2579] \times [910^{128} \bmod 2579] \bmod 2579 \\
&= (1989 \times 1989) \bmod 2579 \\
&= 3956121 \bmod 2579 \\
&= 2514
\end{aligned}$$

$$\begin{aligned}
910^{512} \bmod 2579 &= [910^{256} \bmod 2579] \times [910^{256} \bmod 2579] \bmod 2579 \\
&= (2514 \times 2514) \bmod 2579 \\
&= 6320196 \bmod 2579 \\
&= 1646
\end{aligned}$$

$$\begin{aligned}
910^{1024} \bmod 2579 &= [910^{512} \bmod 2579] \times [910^{512} \bmod 2579] \bmod 2579 \\
&= (1646 \times 1646) \bmod 2579 \\
&= 2709316 \bmod 2579 \\
&= 1366
\end{aligned}$$

Menghitung hasil akhir $910^{1813} \bmod 2579$:

$$\begin{aligned}
910^{1813} \bmod 2579 &= [910^{1024} \bmod 2579] \times [910^{512} \bmod 2579] \times [910^{256} \bmod 2579] \times \\
&\quad [910^{16} \bmod 2579] \times [910^4 \bmod 2579] \times [910^1 \bmod 2579] \bmod 2579 \\
&= (1366 \times 1646 \times 2514 \times 2377 \times 1343 \times 910) \bmod 2579 \\
&= 16420727356349993040 \bmod 2579 \\
&= 2414
\end{aligned}$$

$$\begin{aligned}
\text{Perhitungan: } M &= (2414 \times 2266) \bmod 2579 \\
&= 5470124 \bmod 2579 \\
&= 65
\end{aligned}$$

Hasil Dekripsi Blok 1: $y = 2414$, $M = 65$

Blok 2 - Dekripsi dengan $a = 455$, $b = 1258$

$$\begin{aligned}
455^1 \bmod 2579 &= 455 \\
455^2 \bmod 2579 &= [455^1 \bmod 2579] \times [455^1 \bmod 2579] \bmod 2579 \\
&= (455 \times 455) \bmod 2579 \\
&= 207025 \bmod 2579 \\
&= 705
\end{aligned}$$

$$455^4 \bmod 2579 = [455^2 \bmod 2579] \times [455^2 \bmod 2579] \bmod 2579$$

$$= (705 \times 705) \bmod 2579$$

$$= 497025 \bmod 2579$$

$$= 1857$$

$$455^8 \bmod 2579 = [455^4 \bmod 2579] \times [455^4 \bmod 2579] \bmod 2579$$

$$= (1857 \times 1857) \bmod 2579$$

$$= 3448449 \bmod 2579$$

$$= 326$$

$$455^{16} \bmod 2579 = [455^8 \bmod 2579] \times [455^8 \bmod 2579] \bmod 2579$$

$$= (326 \times 326) \bmod 2579$$

$$= 106276 \bmod 2579$$

$$= 537$$

$$455^{32} \bmod 2579 = [455^{16} \bmod 2579] \times [455^{16} \bmod 2579] \bmod 2579$$

$$= (537 \times 537) \bmod 2579$$

$$= 288369 \bmod 2579$$

$$= 2100$$

$$455^{64} \bmod 2579 = [455^{32} \bmod 2579] \times [455^{32} \bmod 2579] \bmod 2579$$

$$= (2100 \times 2100) \bmod 2579$$

$$= 4410000 \bmod 2579$$

$$= 2489$$

$$455^{128} \bmod 2579 = [455^{64} \bmod 2579] \times [455^{64} \bmod 2579] \bmod 2579$$

$$= (2489 \times 2489) \bmod 2579$$

$$= 6195121 \bmod 2579$$

$$= 363$$

$$455^{256} \bmod 2579 = [455^{128} \bmod 2579] \times [455^{128} \bmod 2579] \bmod 2579$$

$$= (363 \times 363) \bmod 2579$$

$$= 131769 \bmod 2579$$

$$= 240$$

$$455^{512} \bmod 2579 = [455^{256} \bmod 2579] \times [455^{256} \bmod 2579] \bmod 2579$$

$$= (240 \times 240) \bmod 2579$$

$$= 57600 \bmod 2579$$

$$= 862$$

$$455^{1024} \bmod 2579 = [455^{512} \bmod 2579] \times [455^{512} \bmod 2579] \bmod 2579$$

$$= (862 \times 862) \bmod 2579$$

$$= 743044 \bmod 2579$$

$$= 292$$

Menghitung hasil akhir $455^{1813} \bmod 2579$:

$$455^{1813} \bmod 2579 = [455^{1024} \bmod 2579] \times [455^{512} \bmod 2579] \times [455^{256} \bmod 2579] \times [455^{16} \bmod 2579] \times [455^4 \bmod 2579] \times [455^1 \bmod 2579] \bmod 2579$$

$$= (292 \times 862 \times 240 \times 537 \times 1857 \times 455) \bmod 2579$$

$$= 27409363159651200 \bmod 2579$$

$$= 734$$

$$\text{Perhitungan: } M = (734 \times 1258) \bmod 2579$$

$$= 923372 \bmod 2579$$

$$= 90$$

Hasil Dekripsi Blok 2: $y = 734$, $M = 90$

Blok 3 - Dekripsi dengan $= 128$, $= 396$

$$128^1 \bmod 2579 = 128$$

$$128^2 \bmod 2579 = [128^1 \bmod 2579] \times [128^1 \bmod 2579] \bmod 2579$$

$$= (128 \times 128) \bmod 2579$$

$$= 16384 \bmod 2579$$

$$= 910$$

$$128^4 \bmod 2579 = [128^2 \bmod 2579] \times [128^2 \bmod 2579] \bmod 2579$$

$$= (910 \times 910) \bmod 2579$$

$$= 828100 \bmod 2579$$

$$= 241$$

$$128^8 \bmod 2579 = [128^4 \bmod 2579] \times [128^4 \bmod 2579] \bmod 2579$$

$$= (241 \times 241) \bmod 2579$$

$$= 58081 \bmod 2579$$

$$= 1343$$

$$128^{16} \bmod 2579 = [128^8 \bmod 2579] \times [128^8 \bmod 2579] \bmod 2579$$

$$= (1343 \times 1343) \bmod 2579$$

$$= 1803649 \bmod 2579$$

$$= 928$$

$$128^{32} \bmod 2579 = [128^{16} \bmod 2579] \times [128^{16} \bmod 2579] \bmod 2579$$

$$= (928 \times 928) \bmod 2579$$

$$= 861184 \bmod 2579$$

$$= 2377$$

$$128^{64} \bmod 2579 = [128^{32} \bmod 2579] \times [128^{32} \bmod 2579] \bmod 2579$$

$$= (2377 \times 2377) \bmod 2579$$

$$= 5650129 \bmod 2579$$

$$= 2119$$

$$128^{128} \bmod 2579 = [128^{64} \bmod 2579] \times [128^{64} \bmod 2579] \bmod 2579$$

$$= (2119 \times 2119) \bmod 2579$$

$$= 4490161 \bmod 2579$$

$$= 122$$

$$128^{256} \bmod 2579 = [128^{128} \bmod 2579] \times [128^{128} \bmod 2579] \bmod 2579$$

$$= (122 \times 122) \bmod 2579$$

$$= 14884 \bmod 2579$$

$$= 1989$$

$$128^{512} \bmod 2579 = [128^{256} \bmod 2579] \times [128^{256} \bmod 2579] \bmod 2579$$

$$= (1989 \times 1989) \bmod 2579$$

$$= 3956121 \bmod 2579$$

$$= 2514$$

$$128^{1024} \bmod 2579 = [128^{512} \bmod 2579] \times [128^{512} \bmod 2579] \bmod 2579$$

$$= (2514 \times 2514) \bmod 2579$$

$$= 6320196 \bmod 2579$$

$$= 1646$$

Menghitung hasil akhir $128^{1813} \bmod 2579$:

$$128^{1813} \bmod 2579 = [128^{1024} \bmod 2579] \times [128^{512} \bmod 2579] \times [128^{256} \bmod 2579] \times [128^{16} \bmod 2579] \times [128^4 \bmod 2579] \times [128^1 \bmod 2579] \bmod 2579$$

$$= (1646 \times 2514 \times 1989 \times 928 \times 241 \times 128) \bmod 2579$$

$$= 235616052622639104 \bmod 2579$$

$$= 1192$$

$$\text{Perhitungan: } M = (1192 \times 396) \bmod 2579$$

$$= 472032 \bmod 2579$$

$$= 75$$

Hasil Dekripsi Blok 3: $y = 1192$, $M = 75$

Blok 4 - Dekripsi dengan $a = 2379$, $b = 489$

$$2379^1 \bmod 2579 = 2379$$

$$2379^2 \bmod 2579 = [2379^1 \bmod 2579] \times [2379^1 \bmod 2579] \bmod 2579$$

$$= (2379 \times 2379) \bmod 2579$$

$$= 5659641 \bmod 2579$$

$$= 1315$$

$$2379^4 \bmod 2579 = [2379^2 \bmod 2579] \times [2379^2 \bmod 2579] \bmod 2579$$

$$= (1315 \times 1315) \bmod 2579$$

$$= 1729225 \bmod 2579$$

$$= 1295$$

$$2379^8 \bmod 2579 = [2379^4 \bmod 2579] \times [2379^4 \bmod 2579] \bmod 2579$$

$$= (1295 \times 1295) \bmod 2579$$

$$= 1677025 \bmod 2579$$

$$= 675$$

$$2379^{16} \bmod 2579 = [2379^8 \bmod 2579] \times [2379^8 \bmod 2579] \bmod 2579$$

$$= (675 \times 675) \bmod 2579$$

$$= 455625 \bmod 2579$$

$$= 1721$$

$$2379^{32} \bmod 2579 = [2379^{16} \bmod 2579] \times [2379^{16} \bmod 2579] \bmod 2579$$

$$= (1721 \times 1721) \bmod 2579$$

$$= 2961841 \bmod 2579$$

$$= 1149$$

$$2379^{64} \bmod 2579 = [2379^{32} \bmod 2579] \times [2379^{32} \bmod 2579] \bmod 2579$$

$$= (1149 \times 1149) \bmod 2579$$

$$= 1320201 \bmod 2579$$

$$= 2332$$

$$2379^{128} \bmod 2579 = [2379^{64} \bmod 2579] \times [2379^{64} \bmod 2579] \bmod 2579$$

$$= (2332 \times 2332) \bmod 2579$$

$$= 5438224 \bmod 2579$$

$$= 1692$$

$$2379^{256} \bmod 2579 = [2379^{128} \bmod 2579] \times [2379^{128} \bmod 2579] \bmod 2579$$

$$= (1692 \times 1692) \bmod 2579$$

$$= 2862864 \bmod 2579$$

$$= 174$$

$$2379^{512} \bmod 2579 = [2379^{256} \bmod 2579] \times [2379^{256} \bmod 2579] \bmod 2579$$

$$= (174 \times 174) \bmod 2579$$

$$= 30276 \bmod 2579$$

$$= 1907$$

$$2379^{1024} \bmod 2579 = [2379^{512} \bmod 2579] \times [2379^{512} \bmod 2579] \bmod 2579$$

$$= (1907 \times 1907) \bmod 2579$$

$$= 3636649 \bmod 2579$$

$$= 259$$

Menghitung hasil akhir $2379^{1813} \bmod 2579$:

$$2379^{1813} \bmod 2579 = [2379^{1024} \bmod 2579] \times [2379^{512} \bmod 2579] \times [2379^{256} \bmod 2579] \times [2379^{16} \bmod 2579] \times [2379^4 \bmod 2579] \times [2379^1 \bmod 2579] \bmod 2579$$

$$= (259 \times 1907 \times 174 \times 1721 \times 1295 \times 2379) \bmod 2579$$

$$= 455664071286079110 \bmod 2579$$

$$= 1672$$

$$\text{Perhitungan: } M = (1672 \times 489) \bmod 2579$$

$$= 817608 \bmod 2579$$

$$= 65$$

Hasil Dekripsi Blok 4: $y = 1672$, $M = 65$

Blok 5 - Dekripsi dengan $= 2554$, $= 912$

$$2554^1 \bmod 2579 = 2554$$

$$2554^2 \bmod 2579 = [2554^1 \bmod 2579] \times [2554^1 \bmod 2579] \bmod 2579$$

$$= (2554 \times 2554) \bmod 2579$$

$$= 6522916 \bmod 2579$$

$$= 625$$

$$2554^4 \bmod 2579 = [2554^2 \bmod 2579] \times [2554^2 \bmod 2579] \bmod 2579$$

$$= (625 \times 625) \bmod 2579$$

$$= 390625 \bmod 2579$$

$$= 1196$$

$$2554^8 \bmod 2579 = [2554^4 \bmod 2579] \times [2554^4 \bmod 2579] \bmod 2579$$

$$= (1196 \times 1196) \bmod 2579$$

$$= 1430416 \bmod 2579$$

$$= 1650$$

$$2554^{16} \bmod 2579 = [2554^8 \bmod 2579] \times [2554^8 \bmod 2579] \bmod 2579$$

$$= (1650 \times 1650) \bmod 2579$$

$$= 2722500 \bmod 2579$$

$$= 1655$$

$$2554^{32} \bmod 2579 = [2554^{16} \bmod 2579] \times [2554^{16} \bmod 2579] \bmod 2579$$

$$= (1655 \times 1655) \bmod 2579$$

$$= 2739025 \bmod 2579$$

$$= 127$$

$$2554^{64} \bmod 2579 = [2554^{32} \bmod 2579] \times [2554^{32} \bmod 2579] \bmod 2579$$

$$= (127 \times 127) \bmod 2579$$

$$= 16129 \bmod 2579$$

$$= 655$$

$$2554^{128} \bmod 2579 = [2554^{64} \bmod 2579] \times [2554^{64} \bmod 2579] \bmod 2579$$

$$= (655 \times 655) \bmod 2579$$

$$= 429025 \bmod 2579$$

$$= 911$$

$$2554^{256} \bmod 2579 = [2554^{128} \bmod 2579] \times [2554^{128} \bmod 2579] \bmod 2579$$

$$= (911 \times 911) \bmod 2579$$

$$= 829921 \bmod 2579$$

$$= 2062$$

$$2554^{512} \bmod 2579 = [2554^{256} \bmod 2579] \times [2554^{256} \bmod 2579] \bmod 2579$$

$$= (2062 \times 2062) \bmod 2579$$

$$= 4251844 \bmod 2579$$

$$= 1652$$

$$2554^{1024} \bmod 2579 = [2554^{512} \bmod 2579] \times [2554^{512} \bmod 2579] \bmod 2579$$

$$= (1652 \times 1652) \bmod 2579$$

$$= 2729104 \bmod 2579$$

$$= 522$$

Menghitung hasil akhir $2554^{1813} \bmod 2579$:

$$2554^{1813} \bmod 2579 = [2554^{1024} \bmod 2579] \times [2554^{512} \bmod 2579] \times [2554^{256} \bmod 2579] \times [2554^{16} \bmod 2579] \times [2554^4 \bmod 2579] \times [2554^1 \bmod 2579] \bmod 2579$$

$$= (522 \times 1652 \times 2062 \times 1655 \times 1196 \times 2554) \bmod 2579$$

$$= 8989163457197938560 \bmod 2579$$

$$= 362$$

Perhitungan: $M = (362 \times 912) \bmod 2579$

$$= 330144 \bmod 2579$$

$$= 32$$

Hasil Dekripsi Blok 5: $y = 362$, $M = 32$

Blok 6 - Dekripsi dengan $= 1665$, $= 983$

$$1665^1 \bmod 2579 = 1665$$

$$1665^2 \bmod 2579 = [1665^1 \bmod 2579] \times [1665^1 \bmod 2579] \bmod 2579$$

$$= (1665 \times 1665) \bmod 2579$$

$$= 2772225 \bmod 2579$$

$$= 2379$$

$$1665^4 \bmod 2579 = [1665^2 \bmod 2579] \times [1665^2 \bmod 2579] \bmod 2579$$

$$= (2379 \times 2379) \bmod 2579$$

$$= 5659641 \bmod 2579$$

$$= 1315$$

$$1665^8 \bmod 2579 = [1665^4 \bmod 2579] \times [1665^4 \bmod 2579] \bmod 2579$$

$$= (1315 \times 1315) \bmod 2579$$

$$= 1729225 \bmod 2579$$

$$= 1295$$

$$1665^{16} \bmod 2579 = [1665^8 \bmod 2579] \times [1665^8 \bmod 2579] \bmod 2579$$

$$= (1295 \times 1295) \bmod 2579$$

$$= 1677025 \bmod 2579$$

$$= 675$$

$$1665^{32} \bmod 2579 = [1665^{16} \bmod 2579] \times [1665^{16} \bmod 2579] \bmod 2579$$

$$= (675 \times 675) \bmod 2579$$

$$= 455625 \bmod 2579$$

$$= 1721$$

$$1665^{64} \bmod 2579 = [1665^{32} \bmod 2579] \times [1665^{32} \bmod 2579] \bmod 2579$$

$$= (1721 \times 1721) \bmod 2579$$

$$= 2961841 \bmod 2579$$

$$= 1149$$

$$1665^{128} \bmod 2579 = [1665^{64} \bmod 2579] \times [1665^{64} \bmod 2579] \bmod 2579$$

$$= (1149 \times 1149) \bmod 2579$$

$$= 1320201 \bmod 2579$$

$$= 2332$$

$$1665^{256} \bmod 2579 = [1665^{128} \bmod 2579] \times [1665^{128} \bmod 2579] \bmod 2579$$

$$= (2332 \times 2332) \bmod 2579$$

$$= 5438224 \bmod 2579$$

$$= 1692$$

$$1665^{512} \bmod 2579 = [1665^{256} \bmod 2579] \times [1665^{256} \bmod 2579] \bmod 2579$$

$$= (1692 \times 1692) \bmod 2579$$

$$= 2862864 \bmod 2579$$

$$= 174$$

$$1665^{1024} \bmod 2579 = [1665^{512} \bmod 2579] \times [1665^{512} \bmod 2579] \bmod 2579$$

$$= (174 \times 174) \bmod 2579$$

$$= 30276 \bmod 2579$$

$$= 1907$$

Menghitung hasil akhir $1665^{1813} \bmod 2579$:

$$1665^{1813} \bmod 2579 = [1665^{1024} \bmod 2579] \times [1665^{512} \bmod 2579] \times [1665^{256} \bmod 2579] \times [1665^{16} \bmod 2579] \times [1665^4 \bmod 2579] \times [1665^1 \bmod 2579] \bmod 2579$$

$$= (1907 \times 174 \times 1692 \times 675 \times 1315 \times 1665) \bmod 2579$$

$$= 829743890879655000 \bmod 2579$$

$$= 2482$$

$$\text{Perhitungan: } M = (2482 \times 983) \bmod 2579$$

$$= 2439806 \bmod 2579$$

$$= 72$$

Hasil Dekripsi Blok 6: $y = 2482$, $M = 72$

Blok 7 - Dekripsi dengan $= 512$, $= 1366$

$$512^1 \bmod 2579 = 512$$

$$512^2 \bmod 2579 = [512^1 \bmod 2579] \times [512^1 \bmod 2579] \bmod 2579$$

$$= (512 \times 512) \bmod 2579$$

$$= 262144 \bmod 2579$$

$$= 1665$$

$$512^4 \bmod 2579 = [512^2 \bmod 2579] \times [512^2 \bmod 2579] \bmod 2579$$

$$= (1665 \times 1665) \bmod 2579$$

$$= 2772225 \bmod 2579$$

$$= 2379$$

$$512^8 \bmod 2579 = [512^4 \bmod 2579] \times [512^4 \bmod 2579] \bmod 2579$$

$$= (2379 \times 2379) \bmod 2579$$

$$= 5659641 \bmod 2579$$

$$= 1315$$

$$512^{16} \bmod 2579 = [512^8 \bmod 2579] \times [512^8 \bmod 2579] \bmod 2579$$

$$= (1315 \times 1315) \bmod 2579$$

$$= 1729225 \bmod 2579$$

$$= 1295$$

$$512^{32} \bmod 2579 = [512^{16} \bmod 2579] \times [512^{16} \bmod 2579] \bmod 2579$$

$$= (1295 \times 1295) \bmod 2579$$

$$= 1677025 \bmod 2579$$

$$= 675$$

$$512^{64} \bmod 2579 = [512^{32} \bmod 2579] \times [512^{32} \bmod 2579] \bmod 2579$$

$$= (675 \times 675) \bmod 2579$$

$$= 455625 \bmod 2579$$

$$= 1721$$

$$512^{128} \bmod 2579 = [512^{64} \bmod 2579] \times [512^{64} \bmod 2579] \bmod 2579$$

$$= (1721 \times 1721) \bmod 2579$$

$$= 2961841 \bmod 2579$$

$$= 1149$$

$$512^{256} \bmod 2579 = [512^{128} \bmod 2579] \times [512^{128} \bmod 2579] \bmod 2579$$

$$= (1149 \times 1149) \bmod 2579$$

$$= 1320201 \bmod 2579$$

$$= 2332$$

$$512^{512} \bmod 2579 = [512^{256} \bmod 2579] \times [512^{256} \bmod 2579] \bmod 2579$$

$$= (2332 \times 2332) \bmod 2579$$

$$= 5438224 \bmod 2579$$

$$= 1692$$

$$512^{1024} \bmod 2579 = [512^{512} \bmod 2579] \times [512^{512} \bmod 2579] \bmod 2579$$

$$= (1692 \times 1692) \bmod 2579$$

$$= 2862864 \bmod 2579$$

$$= 174$$

Menghitung hasil akhir $512^{1813} \bmod 2579$:

$$512^{1813} \bmod 2579 = [512^{1024} \bmod 2579] \times [512^{512} \bmod 2579] \times [512^{256} \bmod 2579] \times [512^{16} \bmod 2579] \times [512^4 \bmod 2579] \times [512^1 \bmod 2579] \bmod 2579$$

$$= (174 \times 1692 \times 2332 \times 1295 \times 2379 \times 512) \bmod 2579$$

$$= 1082959772079144960 \bmod 2579$$

$$= 2445$$

$$\text{Perhitungan: } M = (2445 \times 1366) \bmod 2579$$

$$= 3339870 \bmod 2579$$

$$= 65$$

Hasil Dekripsi Blok 7: $y = 2445$, $M = 65$

Blok 8 - Dekripsi dengan $= 760$, $= 1746$

$$760^1 \bmod 2579 = 760$$

$$760^2 \bmod 2579 = [760^1 \bmod 2579] \times [760^1 \bmod 2579] \bmod 2579$$

$$= (760 \times 760) \bmod 2579$$

$$= 577600 \bmod 2579$$

$$= 2483$$

$$760^4 \bmod 2579 = [760^2 \bmod 2579] \times [760^2 \bmod 2579] \bmod 2579$$

$$= (2483 \times 2483) \bmod 2579$$

$$= 6165289 \bmod 2579$$

$$= 1479$$

$$760^8 \bmod 2579 = [760^4 \bmod 2579] \times [760^4 \bmod 2579] \bmod 2579$$

$$= (1479 \times 1479) \bmod 2579$$

$$= 2187441 \bmod 2579$$

$$= 449$$

$$760^{16} \bmod 2579 = [760^8 \bmod 2579] \times [760^8 \bmod 2579] \bmod 2579$$

$$= (449 \times 449) \bmod 2579$$

$$= 201601 \bmod 2579$$

$$= 439$$

$$760^{32} \bmod 2579 = [760^{16} \bmod 2579] \times [760^{16} \bmod 2579] \bmod 2579$$

$$= (439 \times 439) \bmod 2579$$

$$= 192721 \bmod 2579$$

$$= 1875$$

$$760^{64} \bmod 2579 = [760^{32} \bmod 2579] \times [760^{32} \bmod 2579] \bmod 2579$$

$$= (1875 \times 1875) \bmod 2579$$

$$= 3515625 \bmod 2579$$

$$= 448$$

$$760^{128} \bmod 2579 = [760^{64} \bmod 2579] \times [760^{64} \bmod 2579] \bmod 2579$$

$$= (448 \times 448) \bmod 2579$$

$$= 200704 \bmod 2579$$

$$= 2121$$

$$760^{256} \bmod 2579 = [760^{128} \bmod 2579] \times [760^{128} \bmod 2579] \bmod 2579$$

$$= (2121 \times 2121) \bmod 2579$$

$$= 4498641 \bmod 2579$$

$$= 865$$

$$760^{512} \bmod 2579 = [760^{256} \bmod 2579] \times [760^{256} \bmod 2579] \bmod 2579$$

$$= (865 \times 865) \bmod 2579$$

$$= 748225 \bmod 2579$$

$$= 315$$

$$760^{1024} \bmod 2579 = [760^{512} \bmod 2579] \times [760^{512} \bmod 2579] \bmod 2579$$

$$= (315 \times 315) \bmod 2579$$

$$= 99225 \bmod 2579$$

$$= 1223$$

Menghitung hasil akhir $760^{1813} \bmod 2579$:

$$760^{1813} \bmod 2579 = [760^{1024} \bmod 2579] \times [760^{512} \bmod 2579] \times [760^{256} \bmod 2579] \times [760^{16} \bmod 2579] \times [760^4 \bmod 2579] \times [760^1 \bmod 2579] \bmod 2579$$

$$= (1223 \times 315 \times 865 \times 439 \times 1479 \times 760) \bmod 2579$$

$$= 164436946964703000 \bmod 2579$$

$$= 325$$

$$\text{Perhitungan: } M = (325 \times 1746) \bmod 2579$$

$$= 567450 \bmod 2579$$

$$= 70$$

Hasil Dekripsi Blok 8: $y = 325$, $M = 70$

Blok 9 - Dekripsi dengan $= 1958$, $= 1288$

$$1958^1 \bmod 2579 = 1958$$

$$1958^2 \bmod 2579 = [1958^1 \bmod 2579] \times [1958^1 \bmod 2579] \bmod 2579$$

$$= (1958 \times 1958) \bmod 2579$$

$$= 3833764 \bmod 2579$$

$$= 1370$$

$$1958^4 \bmod 2579 = [1958^2 \bmod 2579] \times [1958^2 \bmod 2579] \bmod 2579$$

$$= (1370 \times 1370) \bmod 2579$$

$$= 1876900 \bmod 2579$$

$$= 1967$$

$$1958^8 \bmod 2579 = [1958^4 \bmod 2579] \times [1958^4 \bmod 2579] \bmod 2579$$

$$= (1967 \times 1967) \bmod 2579$$

$$= 3869089 \bmod 2579$$

$$= 589$$

$$1958^{16} \bmod 2579 = [1958^8 \bmod 2579] \times [1958^8 \bmod 2579] \bmod 2579$$

$$= (589 \times 589) \bmod 2579$$

$$= 346921 \bmod 2579$$

$$= 1335$$

$$1958^{32} \bmod 2579 = [1958^{16} \bmod 2579] \times [1958^{16} \bmod 2579] \bmod 2579$$

$$= (1335 \times 1335) \bmod 2579$$

$$= 1782225 \bmod 2579$$

$$= 136$$

$$1958^{64} \bmod 2579 = [1958^{32} \bmod 2579] \times [1958^{32} \bmod 2579] \bmod 2579$$

$$= (136 \times 136) \bmod 2579$$

$$= 18496 \bmod 2579$$

$$= 443$$

$$1958^{128} \bmod 2579 = [1958^{64} \bmod 2579] \times [1958^{64} \bmod 2579] \bmod 2579$$

$$= (443 \times 443) \bmod 2579$$

$$= 196249 \bmod 2579$$

$$= 245$$

$$1958^{256} \bmod 2579 = [1958^{128} \bmod 2579] \times [1958^{128} \bmod 2579] \bmod 2579$$

$$= (245 \times 245) \bmod 2579$$

$$= 60025 \bmod 2579$$

$$= 708$$

$$1958^{512} \bmod 2579 = [1958^{256} \bmod 2579] \times [1958^{256} \bmod 2579] \bmod 2579$$

$$= (708 \times 708) \bmod 2579$$

$$= 501264 \bmod 2579$$

$$= 938$$

$$1958^{1024} \bmod 2579 = [1958^{512} \bmod 2579] \times [1958^{512} \bmod 2579] \bmod 2579$$

$$= (938 \times 938) \bmod 2579$$

$$= 879844 \bmod 2579$$

$$= 405$$

Menghitung hasil akhir $1958^{1813} \bmod 2579$:

$$1958^{1813} \bmod 2579 = [1958^{1024} \bmod 2579] \times [1958^{512} \bmod 2579] \times [1958^{256} \bmod 2579] \times [1958^{16} \bmod 2579] \times [1958^4 \bmod 2579] \times [1958^1 \bmod 2579] \bmod 2579$$

$$= (405 \times 938 \times 708 \times 1335 \times 1967 \times 1958) \bmod 2579$$

$$= 1382895719570257200 \bmod 2579$$

$$= 811$$

$$\text{Perhitungan: } M = (811 \times 1288) \bmod 2579$$

$$= 1044568 \bmod 2579$$

$$= 73$$

Hasil Dekripsi Blok 9: $y = 811$, $M = 73$

Blok 10 - Dekripsi dengan $a = 190$, $b = 888$

$$190^1 \bmod 2579 = 190$$

$$190^2 \bmod 2579 = [190^1 \bmod 2579] \times [190^1 \bmod 2579] \bmod 2579$$

$$= (190 \times 190) \bmod 2579$$

$$= 36100 \bmod 2579$$

$$= 2573$$

$$190^4 \bmod 2579 = [190^2 \bmod 2579] \times [190^2 \bmod 2579] \bmod 2579$$

$$= (2573 \times 2573) \bmod 2579$$

$$= 6620329 \bmod 2579$$

$$= 36$$

$$190^8 \bmod 2579 = [190^4 \bmod 2579] \times [190^4 \bmod 2579] \bmod 2579$$

$$= (36 \times 36) \bmod 2579$$

$$= 1296 \bmod 2579$$

$$= 1296$$

$$190^{16} \bmod 2579 = [190^8 \bmod 2579] \times [190^8 \bmod 2579] \bmod 2579$$

$$= (1296 \times 1296) \bmod 2579$$

$$= 1679616 \bmod 2579$$

$$= 687$$

$$190^{32} \bmod 2579 = [190^{16} \bmod 2579] \times [190^{16} \bmod 2579] \bmod 2579$$

$$= (687 \times 687) \bmod 2579$$

$$= 471969 \bmod 2579$$

$$= 12$$

$$190^{64} \bmod 2579 = [190^{32} \bmod 2579] \times [190^{32} \bmod 2579] \bmod 2579$$

$$= (12 \times 12) \bmod 2579$$

$$= 144 \bmod 2579$$

$$= 144$$

$$190^{128} \bmod 2579 = [190^{64} \bmod 2579] \times [190^{64} \bmod 2579] \bmod 2579$$

$$= (144 \times 144) \bmod 2579$$

$$= 20736 \bmod 2579$$

$$= 104$$

$$190^{256} \bmod 2579 = [190^{128} \bmod 2579] \times [190^{128} \bmod 2579] \bmod 2579$$

$$= (104 \times 104) \bmod 2579$$

$$= 10816 \bmod 2579$$

$$= 500$$

$$190^{512} \bmod 2579 = [190^{256} \bmod 2579] \times [190^{256} \bmod 2579] \bmod 2579$$

$$= (500 \times 500) \bmod 2579$$

$$= 250000 \bmod 2579$$

$$= 2416$$

$$190^{1024} \bmod 2579 = [190^{512} \bmod 2579] \times [190^{512} \bmod 2579] \bmod 2579$$

$$= (2416 \times 2416) \bmod 2579$$

$$= 5837056 \bmod 2579$$

$$= 779$$

Menghitung hasil akhir $190^{1813} \bmod 2579$:

$$190^{1813} \bmod 2579 = [190^{1024} \bmod 2579] \times [190^{512} \bmod 2579] \times [190^{256} \bmod 2579] \times [190^{16} \bmod 2579] \times [190^4 \bmod 2579] \times [190^1 \bmod 2579] \bmod 2579$$

$$= (779 \times 2416 \times 500 \times 687 \times 36 \times 190) \bmod 2579$$

$$= 4421984650560000 \bmod 2579$$

$$= 2036$$

Perhitungan: $M = (2036 \times 888) \bmod 2579$

$= 1807968 \bmod 2579$

$= 89$

Hasil Dekripsi Blok 10: $y = 2036$, $M = 89$

Blok 11 - Dekripsi dengan $a = 461$, $b = 106$

$461^1 \bmod 2579 = 461$

$461^2 \bmod 2579 = [461^1 \bmod 2579] \times [461^1 \bmod 2579] \bmod 2579$

$= (461 \times 461) \bmod 2579$

$= 212521 \bmod 2579$

$= 1043$

$461^4 \bmod 2579 = [461^2 \bmod 2579] \times [461^2 \bmod 2579] \bmod 2579$

$= (1043 \times 1043) \bmod 2579$

$= 1087849 \bmod 2579$

$= 2090$

$461^8 \bmod 2579 = [461^4 \bmod 2579] \times [461^4 \bmod 2579] \bmod 2579$

$= (2090 \times 2090) \bmod 2579$

$= 4368100 \bmod 2579$

$= 1853$

$461^{16} \bmod 2579 = [461^8 \bmod 2579] \times [461^8 \bmod 2579] \bmod 2579$

$= (1853 \times 1853) \bmod 2579$

$= 3433609 \bmod 2579$

$= 960$

$461^{32} \bmod 2579 = [461^{16} \bmod 2579] \times [461^{16} \bmod 2579] \bmod 2579$

$= (960 \times 960) \bmod 2579$

$= 921600 \bmod 2579$

$= 897$

$461^{64} \bmod 2579 = [461^{32} \bmod 2579] \times [461^{32} \bmod 2579] \bmod 2579$

$= (897 \times 897) \bmod 2579$

$= 804609 \bmod 2579$

$$= 2540$$

$$461^{128} \bmod 2579 = [461^{64} \bmod 2579] \times [461^{64} \bmod 2579] \bmod 2579$$

$$= (2540 \times 2540) \bmod 2579$$

$$= 6451600 \bmod 2579$$

$$= 1521$$

$$461^{256} \bmod 2579 = [461^{128} \bmod 2579] \times [461^{128} \bmod 2579] \bmod 2579$$

$$= (1521 \times 1521) \bmod 2579$$

$$= 2313441 \bmod 2579$$

$$= 78$$

$$461^{512} \bmod 2579 = [461^{256} \bmod 2579] \times [461^{256} \bmod 2579] \bmod 2579$$

$$= (78 \times 78) \bmod 2579$$

$$= 6084 \bmod 2579$$

$$= 926$$

$$461^{1024} \bmod 2579 = [461^{512} \bmod 2579] \times [461^{512} \bmod 2579] \bmod 2579$$

$$= (926 \times 926) \bmod 2579$$

$$= 857476 \bmod 2579$$

$$= 1248$$

Menghitung hasil akhir $461^{1813} \bmod 2579$:

$$461^{1813} \bmod 2579 = [461^{1024} \bmod 2579] \times [461^{512} \bmod 2579] \times [461^{256} \bmod 2579] \times [461^{16} \bmod 2579] \times [461^4 \bmod 2579] \times [461^1 \bmod 2579] \bmod 2579$$

$$= (1248 \times 926 \times 78 \times 960 \times 2090 \times 461) \bmod 2579$$

$$= 83375532229017600 \bmod 2579$$

$$= 2166$$

$$\text{Perhitungan: } M = (2166 \times 106) \bmod 2579$$

$$= 229596 \bmod 2579$$

$$= 65$$

Hasil Dekripsi Blok 11: $y = 2166$, $M = 65$

Blok 12 - Dekripsi dengan $= 1820$, $= 1005$

$$1820^1 \bmod 2579 = 1820$$

$$1820^2 \bmod 2579 = [1820^1 \bmod 2579] \times [1820^1 \bmod 2579] \bmod 2579$$

$$= (1820 \times 1820) \bmod 2579$$

$$= 3312400 \bmod 2579$$

$$= 964$$

$$1820^4 \bmod 2579 = [1820^2 \bmod 2579] \times [1820^2 \bmod 2579] \bmod 2579$$

$$= (964 \times 964) \bmod 2579$$

$$= 929296 \bmod 2579$$

$$= 856$$

$$1820^8 \bmod 2579 = [1820^4 \bmod 2579] \times [1820^4 \bmod 2579] \bmod 2579$$

$$= (856 \times 856) \bmod 2579$$

$$= 732736 \bmod 2579$$

$$= 300$$

$$1820^{16} \bmod 2579 = [1820^8 \bmod 2579] \times [1820^8 \bmod 2579] \bmod 2579$$

$$= (300 \times 300) \bmod 2579$$

$$= 90000 \bmod 2579$$

$$= 2314$$

$$1820^{32} \bmod 2579 = [1820^{16} \bmod 2579] \times [1820^{16} \bmod 2579] \bmod 2579$$

$$= (2314 \times 2314) \bmod 2579$$

$$= 5354596 \bmod 2579$$

$$= 592$$

$$1820^{64} \bmod 2579 = [1820^{32} \bmod 2579] \times [1820^{32} \bmod 2579] \bmod 2579$$

$$= (592 \times 592) \bmod 2579$$

$$= 350464 \bmod 2579$$

$$= 2299$$

$$1820^{128} \bmod 2579 = [1820^{64} \bmod 2579] \times [1820^{64} \bmod 2579] \bmod 2579$$

$$= (2299 \times 2299) \bmod 2579$$

$$= 5285401 \bmod 2579$$

$$= 1030$$

$$\begin{aligned}
1820^{256} \bmod 2579 &= [1820^{128} \bmod 2579] \times [1820^{128} \bmod 2579] \bmod 2579 \\
&= (1030 \times 1030) \bmod 2579 \\
&= 1060900 \bmod 2579 \\
&= 931
\end{aligned}$$

$$\begin{aligned}
1820^{512} \bmod 2579 &= [1820^{256} \bmod 2579] \times [1820^{256} \bmod 2579] \bmod 2579 \\
&= (931 \times 931) \bmod 2579 \\
&= 866761 \bmod 2579 \\
&= 217
\end{aligned}$$

$$\begin{aligned}
1820^{1024} \bmod 2579 &= [1820^{512} \bmod 2579] \times [1820^{512} \bmod 2579] \bmod 2579 \\
&= (217 \times 217) \bmod 2579 \\
&= 47089 \bmod 2579 \\
&= 667
\end{aligned}$$

Menghitung hasil akhir $1820^{1813} \bmod 2579$:

$$\begin{aligned}
1820^{1813} \bmod 2579 &= [1820^{1024} \bmod 2579] \times [1820^{512} \bmod 2579] \times [1820^{256} \bmod 2579] \times \\
&\quad [1820^{16} \bmod 2579] \times [1820^4 \bmod 2579] \times [1820^1 \bmod 2579] \bmod 2579 \\
&= (667 \times 217 \times 931 \times 2314 \times 856 \times 1820) \bmod 2579 \\
&= 485784614579001920 \bmod 2579 \\
&= 1432
\end{aligned}$$

$$\begin{aligned}
\text{Perhitungan: } M &= (1432 \times 1005) \bmod 2579 \\
&= 1439160 \bmod 2579 \\
&= 78
\end{aligned}$$

Hasil Dekripsi Blok 12: $y = 1432$, $M = 78$

Blok 13 - Dekripsi dengan $a = 32$, $b = 1167$

$$\begin{aligned}
32^1 \bmod 2579 &= 32 \\
32^2 \bmod 2579 &= [32^1 \bmod 2579] \times [32^1 \bmod 2579] \bmod 2579 \\
&= (32 \times 32) \bmod 2579 \\
&= 1024 \bmod 2579 \\
&= 1024
\end{aligned}$$

$$\begin{aligned}
32^4 \bmod 2579 &= [32^2 \bmod 2579] \times [32^2 \bmod 2579] \bmod 2579 \\
&= (1024 \times 1024) \bmod 2579 \\
&= 1048576 \bmod 2579 \\
&= 1502
\end{aligned}$$

$$\begin{aligned}
32^8 \bmod 2579 &= [32^4 \bmod 2579] \times [32^4 \bmod 2579] \bmod 2579 \\
&= (1502 \times 1502) \bmod 2579 \\
&= 2256004 \bmod 2579 \\
&= 1958
\end{aligned}$$

$$\begin{aligned}
32^{16} \bmod 2579 &= [32^8 \bmod 2579] \times [32^8 \bmod 2579] \bmod 2579 \\
&= (1958 \times 1958) \bmod 2579 \\
&= 3833764 \bmod 2579 \\
&= 1370
\end{aligned}$$

$$\begin{aligned}
32^{32} \bmod 2579 &= [32^{16} \bmod 2579] \times [32^{16} \bmod 2579] \bmod 2579 \\
&= (1370 \times 1370) \bmod 2579 \\
&= 1876900 \bmod 2579 \\
&= 1967
\end{aligned}$$

$$\begin{aligned}
32^{64} \bmod 2579 &= [32^{32} \bmod 2579] \times [32^{32} \bmod 2579] \bmod 2579 \\
&= (1967 \times 1967) \bmod 2579 \\
&= 3869089 \bmod 2579 \\
&= 589
\end{aligned}$$

$$\begin{aligned}
32^{128} \bmod 2579 &= [32^{64} \bmod 2579] \times [32^{64} \bmod 2579] \bmod 2579 \\
&= (589 \times 589) \bmod 2579 \\
&= 346921 \bmod 2579 \\
&= 1335
\end{aligned}$$

$$\begin{aligned}
32^{256} \bmod 2579 &= [32^{128} \bmod 2579] \times [32^{128} \bmod 2579] \bmod 2579 \\
&= (1335 \times 1335) \bmod 2579 \\
&= 1782225 \bmod 2579 \\
&= 136
\end{aligned}$$

$$32^{512} \bmod 2579 = [32^{256} \bmod 2579] \times [32^{256} \bmod 2579] \bmod 2579$$

$$= (136 \times 136) \bmod 2579$$

$$= 18496 \bmod 2579$$

$$= 443$$

$$32^{1024} \bmod 2579 = [32^{512} \bmod 2579] \times [32^{512} \bmod 2579] \bmod 2579$$

$$= (443 \times 443) \bmod 2579$$

$$= 196249 \bmod 2579$$

$$= 245$$

Menghitung hasil akhir $32^{1813} \bmod 2579$:

$$32^{1813} \bmod 2579 = [32^{1024} \bmod 2579] \times [32^{512} \bmod 2579] \times [32^{256} \bmod 2579] \times [32^{16} \bmod 2579] \times [32^4 \bmod 2579] \times [32^1 \bmod 2579] \bmod 2579$$

$$= (245 \times 443 \times 136 \times 1370 \times 1502 \times 32) \bmod 2579$$

$$= 971961801036800 \bmod 2579$$

$$= 2484$$

$$\text{Perhitungan: } M = (2484 \times 1167) \bmod 2579$$

$$= 2898828 \bmod 2579$$

$$= 32$$

Hasil Dekripsi Blok 13: $y = 2484$, $M = 32$

Blok 14 - Dekripsi dengan $= 16$, $= 2228$

$$16^1 \bmod 2579 = 16$$

$$16^2 \bmod 2579 = [16^1 \bmod 2579] \times [16^1 \bmod 2579] \bmod 2579$$

$$= (16 \times 16) \bmod 2579$$

$$= 256 \bmod 2579$$

$$= 256$$

$$16^4 \bmod 2579 = [16^2 \bmod 2579] \times [16^2 \bmod 2579] \bmod 2579$$

$$= (256 \times 256) \bmod 2579$$

$$= 65536 \bmod 2579$$

$$= 1061$$

$$16^8 \bmod 2579 = [16^4 \bmod 2579] \times [16^4 \bmod 2579] \bmod 2579$$

$$= (1061 \times 1061) \bmod 2579$$

$$= 1125721 \bmod 2579$$

$$= 1277$$

$$16^{16} \bmod 2579 = [16^8 \bmod 2579] \times [16^8 \bmod 2579] \bmod 2579$$

$$= (1277 \times 1277) \bmod 2579$$

$$= 1630729 \bmod 2579$$

$$= 801$$

$$16^{32} \bmod 2579 = [16^{16} \bmod 2579] \times [16^{16} \bmod 2579] \bmod 2579$$

$$= (801 \times 801) \bmod 2579$$

$$= 641601 \bmod 2579$$

$$= 2009$$

$$16^{64} \bmod 2579 = [16^{32} \bmod 2579] \times [16^{32} \bmod 2579] \bmod 2579$$

$$= (2009 \times 2009) \bmod 2579$$

$$= 4036081 \bmod 2579$$

$$= 2525$$

$$16^{128} \bmod 2579 = [16^{64} \bmod 2579] \times [16^{64} \bmod 2579] \bmod 2579$$

$$= (2525 \times 2525) \bmod 2579$$

$$= 6375625 \bmod 2579$$

$$= 337$$

$$16^{256} \bmod 2579 = [16^{128} \bmod 2579] \times [16^{128} \bmod 2579] \bmod 2579$$

$$= (337 \times 337) \bmod 2579$$

$$= 113569 \bmod 2579$$

$$= 93$$

$$16^{512} \bmod 2579 = [16^{256} \bmod 2579] \times [16^{256} \bmod 2579] \bmod 2579$$

$$= (93 \times 93) \bmod 2579$$

$$= 8649 \bmod 2579$$

$$= 912$$

$$16^{1024} \bmod 2579 = [16^{512} \bmod 2579] \times [16^{512} \bmod 2579] \bmod 2579$$

$$= (912 \times 912) \bmod 2579$$

$$= 831744 \bmod 2579$$

$$= 1306$$

Menghitung hasil akhir $16^{1813} \bmod 2579$:

$$16^{1813} \bmod 2579 = [16^{1024} \bmod 2579] \times [16^{512} \bmod 2579] \times [16^{256} \bmod 2579] \times [16^{16} \bmod 2579] \times [16^4 \bmod 2579] \times [16^1 \bmod 2579] \bmod 2579$$

$$= (1306 \times 912 \times 93 \times 801 \times 1061 \times 16) \bmod 2579$$

$$= 1506221513796096 \bmod 2579$$

$$= 110$$

$$\text{Perhitungan: } M = (110 \times 2228) \bmod 2579$$

$$= 245080 \bmod 2579$$

$$= 75$$

Hasil Dekripsi Blok 14: $y = 110$, $M = 75$

Blok 15 - Dekripsi dengan $a = 821$, $b = 1928$

$$821^1 \bmod 2579 = 821$$

$$821^2 \bmod 2579 = [821^1 \bmod 2579] \times [821^1 \bmod 2579] \bmod 2579$$

$$= (821 \times 821) \bmod 2579$$

$$= 674041 \bmod 2579$$

$$= 922$$

$$821^4 \bmod 2579 = [821^2 \bmod 2579] \times [821^2 \bmod 2579] \bmod 2579$$

$$= (922 \times 922) \bmod 2579$$

$$= 850084 \bmod 2579$$

$$= 1593$$

$$821^8 \bmod 2579 = [821^4 \bmod 2579] \times [821^4 \bmod 2579] \bmod 2579$$

$$= (1593 \times 1593) \bmod 2579$$

$$= 2537649 \bmod 2579$$

$$= 2492$$

$$821^{16} \bmod 2579 = [821^8 \bmod 2579] \times [821^8 \bmod 2579] \bmod 2579$$

$$= (2492 \times 2492) \bmod 2579$$

$$= 6210064 \bmod 2579$$

$$= 2411$$

$$821^{32} \bmod 2579 = [821^{16} \bmod 2579] \times [821^{16} \bmod 2579] \bmod 2579$$

$$= (2411 \times 2411) \bmod 2579$$

$$= 5812921 \bmod 2579$$

$$= 2434$$

$$821^{64} \bmod 2579 = [821^{32} \bmod 2579] \times [821^{32} \bmod 2579] \bmod 2579$$

$$= (2434 \times 2434) \bmod 2579$$

$$= 5924356 \bmod 2579$$

$$= 393$$

$$821^{128} \bmod 2579 = [821^{64} \bmod 2579] \times [821^{64} \bmod 2579] \bmod 2579$$

$$= (393 \times 393) \bmod 2579$$

$$= 154449 \bmod 2579$$

$$= 2288$$

$$821^{256} \bmod 2579 = [821^{128} \bmod 2579] \times [821^{128} \bmod 2579] \bmod 2579$$

$$= (2288 \times 2288) \bmod 2579$$

$$= 5234944 \bmod 2579$$

$$= 2153$$

$$821^{512} \bmod 2579 = [821^{256} \bmod 2579] \times [821^{256} \bmod 2579] \bmod 2579$$

$$= (2153 \times 2153) \bmod 2579$$

$$= 4635409 \bmod 2579$$

$$= 946$$

$$821^{1024} \bmod 2579 = [821^{512} \bmod 2579] \times [821^{512} \bmod 2579] \bmod 2579$$

$$= (946 \times 946) \bmod 2579$$

$$= 894916 \bmod 2579$$

$$= 3$$

Menghitung hasil akhir $821^{1813} \bmod 2579$:

$$821^{1813} \bmod 2579 = [821^{1024} \bmod 2579] \times [821^{512} \bmod 2579] \times [821^{256} \bmod 2579] \times [821^{16} \bmod 2579] \times [821^4 \bmod 2579] \times [821^1 \bmod 2579] \bmod 2579$$

$$= (3 \times 946 \times 2153 \times 2411 \times 1593 \times 821) \bmod 2579$$

$$= 19266931984116762 \bmod 2579$$

$$= 1537$$

$$\text{Perhitungan: } M = (1537 \times 1928) \bmod 2579$$

$$= 2963336 \bmod 2579$$

$$= 65$$

Hasil Dekripsi Blok 15: $y = 1537$, $M = 65$

Blok 16 - Dekripsi dengan $a = 455$, $b = 2038$

$$455^1 \bmod 2579 = 455$$

$$455^2 \bmod 2579 = [455^1 \bmod 2579] \times [455^1 \bmod 2579] \bmod 2579$$

$$= (455 \times 455) \bmod 2579$$

$$= 207025 \bmod 2579$$

$$= 705$$

$$455^4 \bmod 2579 = [455^2 \bmod 2579] \times [455^2 \bmod 2579] \bmod 2579$$

$$= (705 \times 705) \bmod 2579$$

$$= 497025 \bmod 2579$$

$$= 1857$$

$$455^8 \bmod 2579 = [455^4 \bmod 2579] \times [455^4 \bmod 2579] \bmod 2579$$

$$= (1857 \times 1857) \bmod 2579$$

$$= 3448449 \bmod 2579$$

$$= 326$$

$$455^{16} \bmod 2579 = [455^8 \bmod 2579] \times [455^8 \bmod 2579] \bmod 2579$$

$$= (326 \times 326) \bmod 2579$$

$$= 106276 \bmod 2579$$

$$= 537$$

$$455^{32} \bmod 2579 = [455^{16} \bmod 2579] \times [455^{16} \bmod 2579] \bmod 2579$$

$$= (537 \times 537) \bmod 2579$$

$$= 288369 \bmod 2579$$

$$= 2100$$

$$455^{64} \bmod 2579 = [455^{32} \bmod 2579] \times [455^{32} \bmod 2579] \bmod 2579$$

$$= (2100 \times 2100) \bmod 2579$$

$$= 4410000 \bmod 2579$$

$$= 2489$$

$$455^{128} \bmod 2579 = [455^{64} \bmod 2579] \times [455^{64} \bmod 2579] \bmod 2579$$

$$= (2489 \times 2489) \bmod 2579$$

$$= 6195121 \bmod 2579$$

$$= 363$$

$$455^{256} \bmod 2579 = [455^{128} \bmod 2579] \times [455^{128} \bmod 2579] \bmod 2579$$

$$= (363 \times 363) \bmod 2579$$

$$= 131769 \bmod 2579$$

$$= 240$$

$$455^{512} \bmod 2579 = [455^{256} \bmod 2579] \times [455^{256} \bmod 2579] \bmod 2579$$

$$= (240 \times 240) \bmod 2579$$

$$= 57600 \bmod 2579$$

$$= 862$$

$$455^{1024} \bmod 2579 = [455^{512} \bmod 2579] \times [455^{512} \bmod 2579] \bmod 2579$$

$$= (862 \times 862) \bmod 2579$$

$$= 743044 \bmod 2579$$

$$= 292$$

Menghitung hasil akhir $455^{1813} \bmod 2579$:

$$455^{1813} \bmod 2579 = [455^{1024} \bmod 2579] \times [455^{512} \bmod 2579] \times [455^{256} \bmod 2579] \times [455^{16} \bmod 2579] \times [455^4 \bmod 2579] \times [455^1 \bmod 2579] \bmod 2579$$

$$= (292 \times 862 \times 240 \times 537 \times 1857 \times 455) \bmod 2579$$

$$= 27409363159651200 \bmod 2579$$

$$= 734$$

$$\text{Perhitungan: } M = (734 \times 2038) \bmod 2579$$

$$= 1495892 \bmod 2579$$

$$= 72$$

Hasil Dekripsi Blok 16: $y = 734$, $M = 72$

Blok 17 - Dekripsi dengan $= 2379$, $= 725$

$$2379^1 \bmod 2579 = 2379$$

$$2379^2 \bmod 2579 = [2379^1 \bmod 2579] \times [2379^1 \bmod 2579] \bmod 2579$$

$$= (2379 \times 2379) \bmod 2579$$

$$= 5659641 \bmod 2579$$

$$= 1315$$

$$2379^4 \bmod 2579 = [2379^2 \bmod 2579] \times [2379^2 \bmod 2579] \bmod 2579$$

$$= (1315 \times 1315) \bmod 2579$$

$$= 1729225 \bmod 2579$$

$$= 1295$$

$$2379^8 \bmod 2579 = [2379^4 \bmod 2579] \times [2379^4 \bmod 2579] \bmod 2579$$

$$= (1295 \times 1295) \bmod 2579$$

$$= 1677025 \bmod 2579$$

$$= 675$$

$$2379^{16} \bmod 2579 = [2379^8 \bmod 2579] \times [2379^8 \bmod 2579] \bmod 2579$$

$$= (675 \times 675) \bmod 2579$$

$$= 455625 \bmod 2579$$

$$= 1721$$

$$2379^{32} \bmod 2579 = [2379^{16} \bmod 2579] \times [2379^{16} \bmod 2579] \bmod 2579$$

$$= (1721 \times 1721) \bmod 2579$$

$$= 2961841 \bmod 2579$$

$$= 1149$$

$$2379^{64} \bmod 2579 = [2379^{32} \bmod 2579] \times [2379^{32} \bmod 2579] \bmod 2579$$

$$= (1149 \times 1149) \bmod 2579$$

$$= 1320201 \bmod 2579$$

$$= 2332$$

$$2379^{128} \bmod 2579 = [2379^{64} \bmod 2579] \times [2379^{64} \bmod 2579] \bmod 2579$$

$$= (2332 \times 2332) \bmod 2579$$

$$= 5438224 \bmod 2579$$

$$= 1692$$

$$2379^{256} \bmod 2579 = [2379^{128} \bmod 2579] \times [2379^{128} \bmod 2579] \bmod 2579$$

$$= (1692 \times 1692) \bmod 2579$$

$$= 2862864 \bmod 2579$$

$$= 174$$

$$2379^{512} \bmod 2579 = [2379^{256} \bmod 2579] \times [2379^{256} \bmod 2579] \bmod 2579$$

$$= (174 \times 174) \bmod 2579$$

$$= 30276 \bmod 2579$$

$$= 1907$$

$$2379^{1024} \bmod 2579 = [2379^{512} \bmod 2579] \times [2379^{512} \bmod 2579] \bmod 2579$$

$$= (1907 \times 1907) \bmod 2579$$

$$= 3636649 \bmod 2579$$

$$= 259$$

Menghitung hasil akhir $2379^{1813} \bmod 2579$:

$$2379^{1813} \bmod 2579 = [2379^{1024} \bmod 2579] \times [2379^{512} \bmod 2579] \times [2379^{256} \bmod 2579] \times [2379^{16} \bmod 2579] \times [2379^4 \bmod 2579] \times [2379^1 \bmod 2579] \bmod 2579$$

$$= (259 \times 1907 \times 174 \times 1721 \times 1295 \times 2379) \bmod 2579$$

$$= 455664071286079110 \bmod 2579$$

$$= 1672$$

$$\text{Perhitungan: } M = (1672 \times 725) \bmod 2579$$

$$= 1212200 \bmod 2579$$

$$= 70$$

Hasil Dekripsi Blok 17: $y = 1672$, $M = 70$

Blok 18 - Dekripsi dengan $a = 8$, $k = 2166$

$$8^1 \bmod 2579 = 8$$

$$8^2 \bmod 2579 = [8^1 \bmod 2579] \times [8^1 \bmod 2579] \bmod 2579$$

$$= (8 \times 8) \bmod 2579$$

$$= 64 \bmod 2579$$

$$= 64$$

$$8^4 \bmod 2579 = [8^2 \bmod 2579] \times [8^2 \bmod 2579] \bmod 2579$$

$$= (64 \times 64) \bmod 2579$$

$$= 4096 \bmod 2579$$

$$= 1517$$

$$8^8 \bmod 2579 = [8^4 \bmod 2579] \times [8^4 \bmod 2579] \bmod 2579$$

$$= (1517 \times 1517) \bmod 2579$$

$$= 2301289 \bmod 2579$$

$$= 821$$

$$8^{16} \bmod 2579 = [8^8 \bmod 2579] \times [8^8 \bmod 2579] \bmod 2579$$

$$= (821 \times 821) \bmod 2579$$

$$= 674041 \bmod 2579$$

$$= 922$$

$$8^{32} \bmod 2579 = [8^{16} \bmod 2579] \times [8^{16} \bmod 2579] \bmod 2579$$

$$= (922 \times 922) \bmod 2579$$

$$= 850084 \bmod 2579$$

$$= 1593$$

$$8^{64} \bmod 2579 = [8^{32} \bmod 2579] \times [8^{32} \bmod 2579] \bmod 2579$$

$$= (1593 \times 1593) \bmod 2579$$

$$= 2537649 \bmod 2579$$

$$= 2492$$

$$8^{128} \bmod 2579 = [8^{64} \bmod 2579] \times [8^{64} \bmod 2579] \bmod 2579$$

$$= (2492 \times 2492) \bmod 2579$$

$$= 6210064 \bmod 2579$$

$$= 2411$$

$$8^{256} \bmod 2579 = [8^{128} \bmod 2579] \times [8^{128} \bmod 2579] \bmod 2579$$

$$= (2411 \times 2411) \bmod 2579$$

$$= 5812921 \bmod 2579$$

$$= 2434$$

$$8^{512} \bmod 2579 = [8^{256} \bmod 2579] \times [8^{256} \bmod 2579] \bmod 2579$$

$$= (2434 \times 2434) \bmod 2579$$

$$= 5924356 \bmod 2579$$

$$= 393$$

$$8^{1024} \bmod 2579 = [8^{512} \bmod 2579] \times [8^{512} \bmod 2579] \bmod 2579$$

$$= (393 \times 393) \bmod 2579$$

$$= 154449 \bmod 2579$$

$$= 2288$$

Menghitung hasil akhir $8^{1813} \bmod 2579$:

$$8^{1813} \bmod 2579 = [8^{1024} \bmod 2579] \times [8^{512} \bmod 2579] \times [8^{256} \bmod 2579] \times [8^{16} \bmod 2579] \times [8^4 \bmod 2579] \times [8^1 \bmod 2579] \bmod 2579$$

$$= (2288 \times 393 \times 2434 \times 922 \times 1517 \times 8) \bmod 2579$$

$$= 24489258371415552 \bmod 2579$$

$$= 1230$$

$$\text{Perhitungan: } M = (1230 \times 2166) \bmod 2579$$

$$= 2664180 \bmod 2579$$

$$= 73$$

Hasil Dekripsi Blok 18: $y = 1230$, $M = 73$

Blok 19 - Dekripsi dengan $= 512$, $= 1347$

$$512^1 \bmod 2579 = 512$$

$$512^2 \bmod 2579 = [512^1 \bmod 2579] \times [512^1 \bmod 2579] \bmod 2579$$

$$= (512 \times 512) \bmod 2579$$

$$= 262144 \bmod 2579$$

$$= 1665$$

$$512^4 \bmod 2579 = [512^2 \bmod 2579] \times [512^2 \bmod 2579] \bmod 2579$$

$$= (1665 \times 1665) \bmod 2579$$

$$= 2772225 \bmod 2579$$

$$= 2379$$

$$512^8 \bmod 2579 = [512^4 \bmod 2579] \times [512^4 \bmod 2579] \bmod 2579$$

$$= (2379 \times 2379) \bmod 2579$$

$$= 5659641 \bmod 2579$$

$$= 1315$$

$$512^{16} \bmod 2579 = [512^8 \bmod 2579] \times [512^8 \bmod 2579] \bmod 2579$$

$$= (1315 \times 1315) \bmod 2579$$

$$= 1729225 \bmod 2579$$

$$= 1295$$

$$512^{32} \bmod 2579 = [512^{16} \bmod 2579] \times [512^{16} \bmod 2579] \bmod 2579$$

$$= (1295 \times 1295) \bmod 2579$$

$$= 1677025 \bmod 2579$$

$$= 675$$

$$512^{64} \bmod 2579 = [512^{32} \bmod 2579] \times [512^{32} \bmod 2579] \bmod 2579$$

$$= (675 \times 675) \bmod 2579$$

$$= 455625 \bmod 2579$$

$$= 1721$$

$$512^{128} \bmod 2579 = [512^{64} \bmod 2579] \times [512^{64} \bmod 2579] \bmod 2579$$

$$= (1721 \times 1721) \bmod 2579$$

$$= 2961841 \bmod 2579$$

$$= 1149$$

$$512^{256} \bmod 2579 = [512^{128} \bmod 2579] \times [512^{128} \bmod 2579] \bmod 2579$$

$$= (1149 \times 1149) \bmod 2579$$

$$= 1320201 \bmod 2579$$

$$= 2332$$

$$512^{512} \bmod 2579 = [512^{256} \bmod 2579] \times [512^{256} \bmod 2579] \bmod 2579$$

$$= (2332 \times 2332) \bmod 2579$$

$$= 5438224 \bmod 2579$$

$$= 1692$$

$$512^{1024} \bmod 2579 = [512^{512} \bmod 2579] \times [512^{512} \bmod 2579] \bmod 2579$$

$$= (1692 \times 1692) \bmod 2579$$

$$= 2862864 \bmod 2579$$

$$= 174$$

Menghitung hasil akhir $512^{1813} \bmod 2579$:

$$512^{1813} \bmod 2579 = [512^{1024} \bmod 2579] \times [512^{512} \bmod 2579] \times [512^{256} \bmod 2579] \times [512^{16} \bmod 2579] \times [512^4 \bmod 2579] \times [512^1 \bmod 2579] \bmod 2579$$

$$= (174 \times 1692 \times 2332 \times 1295 \times 2379 \times 512) \bmod 2579$$

$$= 1082959772079144960 \bmod 2579$$

$$= 2445$$

$$\text{Perhitungan: } M = (2445 \times 1347) \bmod 2579$$

$$= 3293415 \bmod 2579$$

$$= 32$$

Hasil Dekripsi Blok 19: $y = 2445$, $M = 32$

Blok 20 - Dekripsi dengan $a = 482$, $b = 34$

$$482^1 \bmod 2579 = 482$$

$$482^2 \bmod 2579 = [482^1 \bmod 2579] \times [482^1 \bmod 2579] \bmod 2579$$

$$= (482 \times 482) \bmod 2579$$

$$= 232324 \bmod 2579$$

$$= 214$$

$$482^4 \bmod 2579 = [482^2 \bmod 2579] \times [482^2 \bmod 2579] \bmod 2579$$

$$= (214 \times 214) \bmod 2579$$

$$= 45796 \bmod 2579$$

$$= 1953$$

$$482^8 \bmod 2579 = [482^4 \bmod 2579] \times [482^4 \bmod 2579] \bmod 2579$$

$$= (1953 \times 1953) \bmod 2579$$

$$= 3814209 \bmod 2579$$

$$= 2447$$

$$482^{16} \bmod 2579 = [482^8 \bmod 2579] \times [482^8 \bmod 2579] \bmod 2579$$

$$= (2447 \times 2447) \bmod 2579$$

$$= 5987809 \bmod 2579$$

$$= 1950$$

$$482^{32} \bmod 2579 = [482^{16} \bmod 2579] \times [482^{16} \bmod 2579] \bmod 2579$$

$$= (1950 \times 1950) \bmod 2579$$

$$= 3802500 \bmod 2579$$

$$= 1054$$

$$482^{64} \bmod 2579 = [482^{32} \bmod 2579] \times [482^{32} \bmod 2579] \bmod 2579$$

$$= (1054 \times 1054) \bmod 2579$$

$$= 1110916 \bmod 2579$$

$$= 1946$$

$$482^{128} \bmod 2579 = [482^{64} \bmod 2579] \times [482^{64} \bmod 2579] \bmod 2579$$

$$= (1946 \times 1946) \bmod 2579$$

$$= 3786916 \bmod 2579$$

$$= 944$$

$$482^{256} \bmod 2579 = [482^{128} \bmod 2579] \times [482^{128} \bmod 2579] \bmod 2579$$

$$= (944 \times 944) \bmod 2579$$

$$= 891136 \bmod 2579$$

$$= 1381$$

$$482^{512} \bmod 2579 = [482^{256} \bmod 2579] \times [482^{256} \bmod 2579] \bmod 2579$$

$$= (1381 \times 1381) \bmod 2579$$

$$= 1907161 \bmod 2579$$

$$= 1280$$

$$482^{1024} \bmod 2579 = [482^{512} \bmod 2579] \times [482^{512} \bmod 2579] \bmod 2579$$

$$= (1280 \times 1280) \bmod 2579$$

$$= 1638400 \bmod 2579$$

$$= 735$$

Menghitung hasil akhir $482^{1813} \bmod 2579$:

$$482^{1813} \bmod 2579 = [482^{1024} \bmod 2579] \times [482^{512} \bmod 2579] \times [482^{256} \bmod 2579] \times [482^{16} \bmod 2579] \times [482^4 \bmod 2579] \times [482^1 \bmod 2579] \bmod 2579$$

$$= (735 \times 1280 \times 1381 \times 1950 \times 1953 \times 482) \bmod 2579$$

$$= 2384925846226560000 \bmod 2579$$

$$= 988$$

$$\text{Perhitungan: } M = (988 \times 34) \bmod 2579$$

$$= 33592 \bmod 2579$$

$$= 65$$

Hasil Dekripsi Blok 20: $y = 988$, $M = 65$

Blok 21 - Dekripsi dengan $a = 1700$, $b = 2080$

$$1700^1 \bmod 2579 = 1700$$

$$1700^2 \bmod 2579 = [1700^1 \bmod 2579] \times [1700^1 \bmod 2579] \bmod 2579$$

$$= (1700 \times 1700) \bmod 2579$$

$$= 2890000 \bmod 2579$$

$$= 1520$$

$$1700^4 \bmod 2579 = [1700^2 \bmod 2579] \times [1700^2 \bmod 2579] \bmod 2579$$

$$= (1520 \times 1520) \bmod 2579$$

$$= 2310400 \bmod 2579$$

$$= 2195$$

$$1700^8 \bmod 2579 = [1700^4 \bmod 2579] \times [1700^4 \bmod 2579] \bmod 2579$$

$$= (2195 \times 2195) \bmod 2579$$

$$= 4818025 \bmod 2579$$

$$= 453$$

$$1700^{16} \bmod 2579 = [1700^8 \bmod 2579] \times [1700^8 \bmod 2579] \bmod 2579$$

$$= (453 \times 453) \bmod 2579$$

$$= 205209 \bmod 2579$$

$$= 1468$$

$$1700^{32} \bmod 2579 = [1700^{16} \bmod 2579] \times [1700^{16} \bmod 2579] \bmod 2579$$

$$= (1468 \times 1468) \bmod 2579$$

$$= 2155024 \bmod 2579$$

$$= 1559$$

$$1700^{64} \bmod 2579 = [1700^{32} \bmod 2579] \times [1700^{32} \bmod 2579] \bmod 2579$$

$$= (1559 \times 1559) \bmod 2579$$

$$= 2430481 \bmod 2579$$

$$= 1063$$

$$1700^{128} \bmod 2579 = [1700^{64} \bmod 2579] \times [1700^{64} \bmod 2579] \bmod 2579$$

$$= (1063 \times 1063) \bmod 2579$$

$$= 1129969 \bmod 2579$$

$$= 367$$

$$1700^{256} \bmod 2579 = [1700^{128} \bmod 2579] \times [1700^{128} \bmod 2579] \bmod 2579$$

$$= (367 \times 367) \bmod 2579$$

$$= 134689 \bmod 2579$$

$$= 581$$

$$1700^{512} \bmod 2579 = [1700^{256} \bmod 2579] \times [1700^{256} \bmod 2579] \bmod 2579$$

$$= (581 \times 581) \bmod 2579$$

$$= 337561 \bmod 2579$$

$$= 2291$$

$$1700^{1024} \bmod 2579 = [1700^{512} \bmod 2579] \times [1700^{512} \bmod 2579] \bmod 2579$$

$$= (2291 \times 2291) \bmod 2579$$

$$= 5248681 \bmod 2579$$

$$= 416$$

Menghitung hasil akhir $1700^{1813} \bmod 2579$:

$$1700^{1813} \bmod 2579 = [1700^{1024} \bmod 2579] \times [1700^{512} \bmod 2579] \times [1700^{256} \bmod 2579] \times [1700^{16} \bmod 2579] \times [1700^4 \bmod 2579] \times [1700^1 \bmod 2579] \bmod 2579$$

$$= (416 \times 2291 \times 581 \times 1468 \times 2195 \times 1700) \bmod 2579$$

$$= 3033220997573312000 \bmod 2579$$

$$= 1478$$

Perhitungan: $M = (1478 \times 2080) \bmod 2579$

$= 3074240 \bmod 2579$

$= 72$

Hasil Dekripsi Blok 21: $y = 1478$, $M = 72$

Blok 22 - Dekripsi dengan $a = 2554$, $b = 1076$

$2554^1 \bmod 2579 = 2554$

$2554^2 \bmod 2579 = [2554^1 \bmod 2579] \times [2554^1 \bmod 2579] \bmod 2579$

$= (2554 \times 2554) \bmod 2579$

$= 6522916 \bmod 2579$

$= 625$

$2554^4 \bmod 2579 = [2554^2 \bmod 2579] \times [2554^2 \bmod 2579] \bmod 2579$

$= (625 \times 625) \bmod 2579$

$= 390625 \bmod 2579$

$= 1196$

$2554^8 \bmod 2579 = [2554^4 \bmod 2579] \times [2554^4 \bmod 2579] \bmod 2579$

$= (1196 \times 1196) \bmod 2579$

$= 1430416 \bmod 2579$

$= 1650$

$2554^{16} \bmod 2579 = [2554^8 \bmod 2579] \times [2554^8 \bmod 2579] \bmod 2579$

$= (1650 \times 1650) \bmod 2579$

$= 2722500 \bmod 2579$

$= 1655$

$2554^{32} \bmod 2579 = [2554^{16} \bmod 2579] \times [2554^{16} \bmod 2579] \bmod 2579$

$= (1655 \times 1655) \bmod 2579$

$= 2739025 \bmod 2579$

$= 127$

$2554^{64} \bmod 2579 = [2554^{32} \bmod 2579] \times [2554^{32} \bmod 2579] \bmod 2579$

$= (127 \times 127) \bmod 2579$

$= 16129 \bmod 2579$

$$= 655$$

$$2554^{128} \bmod 2579 = [2554^{64} \bmod 2579] \times [2554^{64} \bmod 2579] \bmod 2579$$

$$= (655 \times 655) \bmod 2579$$

$$= 429025 \bmod 2579$$

$$= 911$$

$$2554^{256} \bmod 2579 = [2554^{128} \bmod 2579] \times [2554^{128} \bmod 2579] \bmod 2579$$

$$= (911 \times 911) \bmod 2579$$

$$= 829921 \bmod 2579$$

$$= 2062$$

$$2554^{512} \bmod 2579 = [2554^{256} \bmod 2579] \times [2554^{256} \bmod 2579] \bmod 2579$$

$$= (2062 \times 2062) \bmod 2579$$

$$= 4251844 \bmod 2579$$

$$= 1652$$

$$2554^{1024} \bmod 2579 = [2554^{512} \bmod 2579] \times [2554^{512} \bmod 2579] \bmod 2579$$

$$= (1652 \times 1652) \bmod 2579$$

$$= 2729104 \bmod 2579$$

$$= 522$$

Menghitung hasil akhir $2554^{1813} \bmod 2579$:

$$2554^{1813} \bmod 2579 = [2554^{1024} \bmod 2579] \times [2554^{512} \bmod 2579] \times [2554^{256} \bmod 2579] \times [2554^{16} \bmod 2579] \times [2554^4 \bmod 2579] \times [2554^1 \bmod 2579] \bmod 2579$$

$$= (522 \times 1652 \times 2062 \times 1655 \times 1196 \times 2554) \bmod 2579$$

$$= 8989163457197938560 \bmod 2579$$

$$= 362$$

$$\text{Perhitungan: } M = (362 \times 1076) \bmod 2579$$

$$= 389512 \bmod 2579$$

$$= 83$$

Hasil Dekripsi Blok 22: $y = 362$, $M = 83$

Blok 23 - Dekripsi dengan $= 1642$, $= 1167$

$$1642^1 \bmod 2579 = 1642$$

$$\begin{aligned} 1642^2 \bmod 2579 &= [1642^1 \bmod 2579] \times [1642^1 \bmod 2579] \bmod 2579 \\ &= (1642 \times 1642) \bmod 2579 \\ &= 2696164 \bmod 2579 \\ &= 1109 \end{aligned}$$

$$\begin{aligned} 1642^4 \bmod 2579 &= [1642^2 \bmod 2579] \times [1642^2 \bmod 2579] \bmod 2579 \\ &= (1109 \times 1109) \bmod 2579 \\ &= 1229881 \bmod 2579 \\ &= 2277 \end{aligned}$$

$$\begin{aligned} 1642^8 \bmod 2579 &= [1642^4 \bmod 2579] \times [1642^4 \bmod 2579] \bmod 2579 \\ &= (2277 \times 2277) \bmod 2579 \\ &= 5184729 \bmod 2579 \\ &= 939 \end{aligned}$$

$$\begin{aligned} 1642^{16} \bmod 2579 &= [1642^8 \bmod 2579] \times [1642^8 \bmod 2579] \bmod 2579 \\ &= (939 \times 939) \bmod 2579 \\ &= 881721 \bmod 2579 \\ &= 2282 \end{aligned}$$

$$\begin{aligned} 1642^{32} \bmod 2579 &= [1642^{16} \bmod 2579] \times [1642^{16} \bmod 2579] \bmod 2579 \\ &= (2282 \times 2282) \bmod 2579 \\ &= 5207524 \bmod 2579 \\ &= 523 \end{aligned}$$

$$\begin{aligned} 1642^{64} \bmod 2579 &= [1642^{32} \bmod 2579] \times [1642^{32} \bmod 2579] \bmod 2579 \\ &= (523 \times 523) \bmod 2579 \\ &= 273529 \bmod 2579 \\ &= 155 \end{aligned}$$

$$\begin{aligned} 1642^{128} \bmod 2579 &= [1642^{64} \bmod 2579] \times [1642^{64} \bmod 2579] \bmod 2579 \\ &= (155 \times 155) \bmod 2579 \\ &= 24025 \bmod 2579 \\ &= 814 \end{aligned}$$

$$\begin{aligned}
1642^{256} \bmod 2579 &= [1642^{128} \bmod 2579] \times [1642^{128} \bmod 2579] \bmod 2579 \\
&= (814 \times 814) \bmod 2579 \\
&= 662596 \bmod 2579 \\
&= 2372
\end{aligned}$$

$$\begin{aligned}
1642^{512} \bmod 2579 &= [1642^{256} \bmod 2579] \times [1642^{256} \bmod 2579] \bmod 2579 \\
&= (2372 \times 2372) \bmod 2579 \\
&= 5626384 \bmod 2579 \\
&= 1585
\end{aligned}$$

$$\begin{aligned}
1642^{1024} \bmod 2579 &= [1642^{512} \bmod 2579] \times [1642^{512} \bmod 2579] \bmod 2579 \\
&= (1585 \times 1585) \bmod 2579 \\
&= 2512225 \bmod 2579 \\
&= 279
\end{aligned}$$

Menghitung hasil akhir $1642^{1813} \bmod 2579$:

$$\begin{aligned}
1642^{1813} \bmod 2579 &= [1642^{1024} \bmod 2579] \times [1642^{512} \bmod 2579] \times [1642^{256} \bmod 2579] \times \\
&\quad [1642^{16} \bmod 2579] \times [1642^4 \bmod 2579] \times [1642^1 \bmod 2579] \bmod 2579 \\
&= (279 \times 1585 \times 2372 \times 2282 \times 2277 \times 1642) \bmod 2579 \\
&= 8949524844305208240 \bmod 2579 \\
&= 431
\end{aligned}$$

$$\begin{aligned}
\text{Perhitungan: } M &= (431 \times 1167) \bmod 2579 \\
&= 502977 \bmod 2579 \\
&= 72
\end{aligned}$$

Hasil Dekripsi Blok 23: $y = 431$, $M = 72$

Blok 24 - Dekripsi dengan $= 1820$, $= 2109$

$$\begin{aligned}
1820^1 \bmod 2579 &= 1820 \\
1820^2 \bmod 2579 &= [1820^1 \bmod 2579] \times [1820^1 \bmod 2579] \bmod 2579 \\
&= (1820 \times 1820) \bmod 2579 \\
&= 3312400 \bmod 2579 \\
&= 964
\end{aligned}$$

$$\begin{aligned}
1820^4 \bmod 2579 &= [1820^2 \bmod 2579] \times [1820^2 \bmod 2579] \bmod 2579 \\
&= (964 \times 964) \bmod 2579 \\
&= 929296 \bmod 2579 \\
&= 856
\end{aligned}$$

$$\begin{aligned}
1820^8 \bmod 2579 &= [1820^4 \bmod 2579] \times [1820^4 \bmod 2579] \bmod 2579 \\
&= (856 \times 856) \bmod 2579 \\
&= 732736 \bmod 2579 \\
&= 300
\end{aligned}$$

$$\begin{aligned}
1820^{16} \bmod 2579 &= [1820^8 \bmod 2579] \times [1820^8 \bmod 2579] \bmod 2579 \\
&= (300 \times 300) \bmod 2579 \\
&= 90000 \bmod 2579 \\
&= 2314
\end{aligned}$$

$$\begin{aligned}
1820^{32} \bmod 2579 &= [1820^{16} \bmod 2579] \times [1820^{16} \bmod 2579] \bmod 2579 \\
&= (2314 \times 2314) \bmod 2579 \\
&= 5354596 \bmod 2579 \\
&= 592
\end{aligned}$$

$$\begin{aligned}
1820^{64} \bmod 2579 &= [1820^{32} \bmod 2579] \times [1820^{32} \bmod 2579] \bmod 2579 \\
&= (592 \times 592) \bmod 2579 \\
&= 350464 \bmod 2579 \\
&= 2299
\end{aligned}$$

$$\begin{aligned}
1820^{128} \bmod 2579 &= [1820^{64} \bmod 2579] \times [1820^{64} \bmod 2579] \bmod 2579 \\
&= (2299 \times 2299) \bmod 2579 \\
&= 5285401 \bmod 2579 \\
&= 1030
\end{aligned}$$

$$\begin{aligned}
1820^{256} \bmod 2579 &= [1820^{128} \bmod 2579] \times [1820^{128} \bmod 2579] \bmod 2579 \\
&= (1030 \times 1030) \bmod 2579 \\
&= 1060900 \bmod 2579 \\
&= 931
\end{aligned}$$

$$1820^{512} \bmod 2579 = [1820^{256} \bmod 2579] \times [1820^{256} \bmod 2579] \bmod 2579$$

$$= (931 \times 931) \bmod 2579$$

$$= 866761 \bmod 2579$$

$$= 217$$

$$1820^{1024} \bmod 2579 = [1820^{512} \bmod 2579] \times [1820^{512} \bmod 2579] \bmod 2579$$

$$= (217 \times 217) \bmod 2579$$

$$= 47089 \bmod 2579$$

$$= 667$$

Menghitung hasil akhir $1820^{1813} \bmod 2579$:

$$1820^{1813} \bmod 2579 = [1820^{1024} \bmod 2579] \times [1820^{512} \bmod 2579] \times [1820^{256} \bmod 2579] \times [1820^{16} \bmod 2579] \times [1820^4 \bmod 2579] \times [1820^1 \bmod 2579] \bmod 2579$$

$$= (667 \times 217 \times 931 \times 2314 \times 856 \times 1820) \bmod 2579$$

$$= 485784614579001920 \bmod 2579$$

$$= 1432$$

$$\text{Perhitungan: } M = (1432 \times 2109) \bmod 2579$$

$$= 3020088 \bmod 2579$$

$$= 79$$

Hasil Dekripsi Blok 24: $y = 1432$, $M = 79$

Blok 25 - Dekripsi dengan $a = 8$, $b = 2491$

$$8^1 \bmod 2579 = 8$$

$$8^2 \bmod 2579 = [8^1 \bmod 2579] \times [8^1 \bmod 2579] \bmod 2579$$

$$= (8 \times 8) \bmod 2579$$

$$= 64 \bmod 2579$$

$$= 64$$

$$8^4 \bmod 2579 = [8^2 \bmod 2579] \times [8^2 \bmod 2579] \bmod 2579$$

$$= (64 \times 64) \bmod 2579$$

$$= 4096 \bmod 2579$$

$$= 1517$$

$$8^8 \bmod 2579 = [8^4 \bmod 2579] \times [8^4 \bmod 2579] \bmod 2579$$

$$= (1517 \times 1517) \bmod 2579$$

$$= 2301289 \bmod 2579$$

$$= 821$$

$$8^{16} \bmod 2579 = [8^8 \bmod 2579] \times [8^8 \bmod 2579] \bmod 2579$$

$$= (821 \times 821) \bmod 2579$$

$$= 674041 \bmod 2579$$

$$= 922$$

$$8^{32} \bmod 2579 = [8^{16} \bmod 2579] \times [8^{16} \bmod 2579] \bmod 2579$$

$$= (922 \times 922) \bmod 2579$$

$$= 850084 \bmod 2579$$

$$= 1593$$

$$8^{64} \bmod 2579 = [8^{32} \bmod 2579] \times [8^{32} \bmod 2579] \bmod 2579$$

$$= (1593 \times 1593) \bmod 2579$$

$$= 2537649 \bmod 2579$$

$$= 2492$$

$$8^{128} \bmod 2579 = [8^{64} \bmod 2579] \times [8^{64} \bmod 2579] \bmod 2579$$

$$= (2492 \times 2492) \bmod 2579$$

$$= 6210064 \bmod 2579$$

$$= 2411$$

$$8^{256} \bmod 2579 = [8^{128} \bmod 2579] \times [8^{128} \bmod 2579] \bmod 2579$$

$$= (2411 \times 2411) \bmod 2579$$

$$= 5812921 \bmod 2579$$

$$= 2434$$

$$8^{512} \bmod 2579 = [8^{256} \bmod 2579] \times [8^{256} \bmod 2579] \bmod 2579$$

$$= (2434 \times 2434) \bmod 2579$$

$$= 5924356 \bmod 2579$$

$$= 393$$

$$8^{1024} \bmod 2579 = [8^{512} \bmod 2579] \times [8^{512} \bmod 2579] \bmod 2579$$

$$= (393 \times 393) \bmod 2579$$

$$= 154449 \bmod 2579$$

$$= 2288$$

Menghitung hasil akhir $8^{1813} \bmod 2579$:

$$8^{1813} \bmod 2579 = [8^{1024} \bmod 2579] \times [8^{512} \bmod 2579] \times [8^{256} \bmod 2579] \times [8^{16} \bmod 2579] \times [8^4 \bmod 2579] \times [8^1 \bmod 2579] \bmod 2579$$

$$= (2288 \times 393 \times 2434 \times 922 \times 1517 \times 8) \bmod 2579$$

$$= 24489258371415552 \bmod 2579$$

$$= 1230$$

$$\text{Perhitungan: } M = (1230 \times 2491) \bmod 2579$$

$$= 3063930 \bmod 2579$$

$$= 78$$

Hasil Dekripsi Blok 25: $y = 1230$, $M = 78$

Blok 26 - Dekripsi dengan $= 1502$, $= 319$

$$1502^1 \bmod 2579 = 1502$$

$$1502^2 \bmod 2579 = [1502^1 \bmod 2579] \times [1502^1 \bmod 2579] \bmod 2579$$

$$= (1502 \times 1502) \bmod 2579$$

$$= 2256004 \bmod 2579$$

$$= 1958$$

$$1502^4 \bmod 2579 = [1502^2 \bmod 2579] \times [1502^2 \bmod 2579] \bmod 2579$$

$$= (1958 \times 1958) \bmod 2579$$

$$= 3833764 \bmod 2579$$

$$= 1370$$

$$1502^8 \bmod 2579 = [1502^4 \bmod 2579] \times [1502^4 \bmod 2579] \bmod 2579$$

$$= (1370 \times 1370) \bmod 2579$$

$$= 1876900 \bmod 2579$$

$$= 1967$$

$$1502^{16} \bmod 2579 = [1502^8 \bmod 2579] \times [1502^8 \bmod 2579] \bmod 2579$$

$$= (1967 \times 1967) \bmod 2579$$

$$= 3869089 \bmod 2579$$

$$= 589$$

$$1502^{32} \bmod 2579 = [1502^{16} \bmod 2579] \times [1502^{16} \bmod 2579] \bmod 2579$$

$$= (589 \times 589) \bmod 2579$$

$$= 346921 \bmod 2579$$

$$= 1335$$

$$1502^{64} \bmod 2579 = [1502^{32} \bmod 2579] \times [1502^{32} \bmod 2579] \bmod 2579$$

$$= (1335 \times 1335) \bmod 2579$$

$$= 1782225 \bmod 2579$$

$$= 136$$

$$1502^{128} \bmod 2579 = [1502^{64} \bmod 2579] \times [1502^{64} \bmod 2579] \bmod 2579$$

$$= (136 \times 136) \bmod 2579$$

$$= 18496 \bmod 2579$$

$$= 443$$

$$1502^{256} \bmod 2579 = [1502^{128} \bmod 2579] \times [1502^{128} \bmod 2579] \bmod 2579$$

$$= (443 \times 443) \bmod 2579$$

$$= 196249 \bmod 2579$$

$$= 245$$

$$1502^{512} \bmod 2579 = [1502^{256} \bmod 2579] \times [1502^{256} \bmod 2579] \bmod 2579$$

$$= (245 \times 245) \bmod 2579$$

$$= 60025 \bmod 2579$$

$$= 708$$

$$1502^{1024} \bmod 2579 = [1502^{512} \bmod 2579] \times [1502^{512} \bmod 2579] \bmod 2579$$

$$= (708 \times 708) \bmod 2579$$

$$= 501264 \bmod 2579$$

$$= 938$$

Menghitung hasil akhir $1502^{1813} \bmod 2579$:

$$1502^{1813} \bmod 2579 = [1502^{1024} \bmod 2579] \times [1502^{512} \bmod 2579] \times [1502^{256} \bmod 2579] \times [1502^{16} \bmod 2579] \times [1502^4 \bmod 2579] \times [1502^1 \bmod 2579] \bmod 2579$$

$$= (938 \times 708 \times 245 \times 589 \times 1370 \times 1502) \bmod 2579$$

$$= 197200483330552800 \bmod 2579$$

$$= 647$$

$$\text{Perhitungan: } M = (647 \times 319) \bmod 2579$$

$$= 206393 \bmod 2579$$

$$= 73$$

Hasil Dekripsi Blok 26: $y = 647$, $M = 73$