

Representa en binario Negativo : Complemento Δ_1

1) -386

-512 256 128 64 32 16 8 4 2 1

0 1 1 0 0 0 0 0 1 0 = +386

1 0 0 1 1 1 1 0 1 = -386

2) -999

-1023 512 256 128 64 32 16 8 4 2 1

0 1 1 1 1 1 0 0 1 1 1 = +999

1 0 0 0 0 0 1 0 0 0 = -999

3) -1023

-1023 512 256 128 64 32 16 8 4 2 1

0 1 1 1 1 1 1 1 1 1 = +1023

1 0 0 0 0 0 0 0 0 0 = -1023

Complemento Δ_2

4) -528

-1024 512 256 128 64 32 16 8 4 2 1

0 1 0 0 0 0 1 0 0 0 0 = +528

+ 1 0 1 1 1 0 1 1 1 1 = (-528)

+ 0 0 0 0 0 0 0 0 0 1 = 1

1 0 1 1 1 1 0 0 0 0 = -528

5) -999

-1024 512 256 128 64 32 16 8 4 2 1

0 1 1 1 1 1 0 0 1 1 = 999

1 0 0 0 0 0 1 1 0 0 = -1000

0 0 0 0 0 0 0 0 0 1 = 1

1 0 0 0 0 0 1 1 0 0 = -999

6) -1280

$$\begin{array}{r}
 \begin{array}{cccccccccccc}
 -2048 & 1024 & 512 & 256 & 128 & 64 & 32 & 16 & 8 & 4 & 2 & 1 \\
 0 & 1 & 0 & 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\
 & = 1280 \\
 1 & 0 & 1 & 0 & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 \\
 & = (-1281) \\
 + & & & & & & & & & & & \\
 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 1 \\
 & = 1 \\
 \hline
 1 & 0 & 1 & 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\
 & = (-1280)
 \end{array}
 \end{array}$$

Operaciones Complemento A₁

7) (-649) + 222

$$\begin{array}{r}
 \begin{array}{cccccccccccc}
 -1023 & 512 & 256 & 128 & 64 & 32 & 16 & 8 & 4 & 2 & 1 \\
 0 & 1 & 0 & 1 & 0 & 0 & 0 & 1 & 0 & 0 & 1 \\
 & = -649 \\
 + & & & & & & & & & & \\
 1 & 0 & 1 & 0 & 1 & 1 & 1 & 0 & 1 & 1 & 0 \\
 & = 222 \\
 \hline
 1 & 1 & 0 & 0 & 1 & 0 & 1 & 0 & 1 & 0 & 0 \\
 & = \boxed{-427} \\
 0 & 0 & 1 & 1 & 0 & 1 & 0 & 1 & 0 & 1 & 1 \\
 & = 427
 \end{array}
 \end{array}$$

8) 457 + (-912)

$$\begin{array}{r}
 \begin{array}{cccccccccccc}
 -1023 & 512 & 256 & 128 & 64 & 32 & 16 & 8 & 4 & 2 & 1 \\
 0 & 0 & 1 & 1 & 1 & 0 & 0 & 1 & 0 & 0 & 1 \\
 & = 457 \\
 0 & 1 & 1 & 1 & 0 & 0 & 1 & 0 & 0 & 0 & 0 \\
 & = 912 \\
 1 & 0 & 0 & 0 & 1 & 1 & 0 & 1 & 1 & 1 & 1 \\
 & = (-912)
 \end{array}
 \end{array}$$

$$\begin{array}{r}
 \begin{array}{cccccccccccc}
 0 & 0 & 1 & 1 & 1 & 0 & 0 & 1 & 0 & 0 & 1 \\
 + & & & & & & & & & & \\
 1 & 0 & 0 & 0 & 1 & 1 & 0 & 1 & 1 & 1 & 1 \\
 \hline
 1 & 1 & 0 & 0 & 0 & 1 & 1 & 1 & 0 & 0 & 0 \\
 & = -455
 \end{array}
 \end{array}$$

$$9) (-1367) + 1366$$

$$\begin{array}{r}
 -1024 \ 512 \ 256 \ 128 \ 64 \ 32 \ 16 \ 8 \ 4 \ 2 \ 1 \\
 0 \ 1 \ 0 \ 1 \ 0 \ 1 \ 0 \ 1 \ 1 \ 1 \ 1 = 1367 \\
 + \ 1 \ 0 \ 1 \ 0 \ 1 \ 0 \ 1 \ 0 \ 1 \ 0 \ 0 \ 0 = -1367 \\
 \hline
 1 \ 0 \ 1 \ 0 \ 0 \ 0 \ 1 \ 0 \ 1 \ 1 \ 0 = 1366 \\
 \hline
 1 \ 1 \ 1 \ 1 \ 1 \ 1 \ 1 \ 1 \ 1 \ 1 \ 0 = -1
 \end{array}$$

$$10) 759 + (-888)$$

$$\begin{array}{r}
 -1024 \ 512 \ 256 \ 128 \ 64 \ 32 \ 16 \ 8 \ 4 \ 2 \ 1 \\
 1 \ 0 \ 1 \ 1 \ 1 \ 1 \ 1 \ 0 \ 1 \ 1 \ 1 = 759 \\
 0 \ 1 \ 1 \ 0 \ 1 \ 1 \ 1 \ 1 \ 0 \ 0 \ 0 = 888 \\
 1 \ 0 \ 0 \ 1 \ 0 \ 0 \ 0 \ 0 \ 1 \ 1 \ 1 = -888
 \end{array}$$

$$\begin{array}{r}
 + \ 1 \ 0 \ 1 \ 1 \ 1 \ 0 \ 1 \ 1 \ 1 \\
 1 \ 0 \ 0 \ 1 \ 0 \ 0 \ 0 \ 0 \ 1 \ 1 \ 1 \\
 \hline
 1 \ 1 \ 1 \ 0 \ 1 \ 1 \ 1 \ 1 \ 1 \ 0 = -129
 \end{array}$$

Complemento A2

$$11) 268 + (-574)$$

$$\begin{array}{r}
 -1024 \ 512 \ 256 \ 128 \ 64 \ 32 \ 16 \ 8 \ 4 \ 2 \ 1 \\
 0 \ 1 \ 0 \ 0 \ 0 \ 1 \ 1 \ 1 \ 1 \ 1 \ 0 = 574 \\
 + \ 1 \ 0 \ 1 \ 1 \ 1 \ 0 \ 0 \ 0 \ 0 \ 1 = (-575) \\
 \hline
 0 \ 0 \ 0 \ 0 \ 0 \ 0 \ 0 \ 0 \ 0 \ 1 = 1 \\
 \hline
 1 \ 0 \ 1 \ 1 \ 1 \ 0 \ 0 \ 0 \ 1 \ 0 = (-574)
 \end{array}$$

$$\begin{array}{r}
 + \ 0 \ 0 \ 1 \ 0 \ 0 \ 0 \ 0 \ 1 \ 1 \ 0 \ 0 = 268 \\
 1 \ 0 \ 1 \ 1 \ 1 \ 0 \ 0 \ 0 \ 0 \ 1 \ 0 = -574 \\
 \hline
 1 \ 1 \ 0 \ 1 \ 1 \ 0 \ 0 \ 1 \ 1 \ 1 \ 0 = -306
 \end{array}$$

12) $504 + (-758)$

	-1024	512	256	128	64	32	16	8	4	2	1	
	0	1	0	1	1	1	1	0	1	1	0	= 758
+	1	0	1	0	0	0	0	1	0	0	1	= (-759)
	0	0	0	0	0	0	0	0	0	0	1	= 1
	1	0	1	0	0	0	0	1	0	1	0	= (-758)

+		0	1	1	1	1	1	1	0	0	0	= 504
	1	0	1	0	0	0	0	1	0	1	0	= (-759)
	1	1	1	0	0	0	0	0	0	1	0	= -254

13) $(-1488) + 1264$

	-2048	1024	512	256	128	64	32	16	8	4	2	1	
	0	1	0	1	1	1	0	1	0	0	0	0	= 1488
+	1	0	1	0	0	0	1	0	1	1	1	1	= (-1489)
	0	0	0	0	0	0	0	0	0	0	0	1	= 1
+	1	0	1	0	0	0	1	1	0	0	0	0	= (-1488)
	0	1	0	0	1	1	1	1	0	0	0	0	= 1264
	1	1	1	1	0	0	1	0	0	0	0	0	= -224

14) $938 + (-1400)$

	-2048	1024	512	256	128	64	32	16	8	4	2	1	
	0	1	0	1	0	1	1	1	0	0	0	0	= 1400
+	1	0	1	0	1	0	0	0	0	1	1	1	= -1401
	0	0	0	0	0	0	0	0	0	0	0	1	= 1
+	1	0	1	0	1	0	0	0	1	0	0	0	= -1400
	0	0	1	1	1	0	1	0	1	0	1	0	= 938
	1	1	1	0	0	0	1	1	0	1	0	0	= -462