

BINARY TO DECIMAL CONVERSION

BINARY	DEC
0000	0
0001	1
0010	2
0011	3
0100	4
0101	5
0110	6
0111	7
BINARY	DEC
1000	8
1001	9
1010	10
1011	11
1100	12
1101	13
1110	14
1111	15
POWER	VALUE
2^0	1
2^1	2

POWER	VALUE
2^2	4
2^3	8
2^4	16
2^5	32
2^6	64
2^7	128

Quick Rule: To convert binary to decimal, multiply each bit by 2 raised to the power of its position (starting from 0 on the right) and sum the results.

Example: $1011 = (1 \times 2^3) + (0 \times 2^2) + (1 \times 2^1) + (1 \times 2^0) = 8 + 0 + 2 + 1 = 11$