

# Ejercicio de conversiones de binario a decimal y decimal a binario.

1.  $10000_2 \rightarrow 16_{10}$   
 $1 \cdot 2^4 + 0 \cdot 2^3 + 0 \cdot 2^2 + 0 \cdot 2^1 + 0 \cdot 2^0$

4.  $111111_2 \rightarrow 64 + 32 + 16 + 8 + 4 + 2 + 1 = 127_{10}$   
 $1 \cdot 2^6 + 1 \cdot 2^5 + 1 \cdot 2^4 + 1 \cdot 2^3 + 1 \cdot 2^2 + 1 \cdot 2^1 + 1 \cdot 2^0$

2.  $110011_2 \rightarrow 32 + 16 + 2 + 1 = 51_{10}$   
 $1 \cdot 2^5 + 1 \cdot 2^4 + 0 \cdot 2^3 + 0 \cdot 2^2 + 1 \cdot 2^1 + 1 \cdot 2^0$

5.  $1010101_2 \rightarrow 64 + 16 + 4 + 1 = 85_{10}$   
 $1 \cdot 2^6 + 0 \cdot 2^5 + 1 \cdot 2^4 + 0 \cdot 2^3 + 1 \cdot 2^2 + 0 \cdot 2^1 + 1 \cdot 2^0$

3.  $100010_2 \rightarrow 32 + 2 = 34_{10}$   
 $1 \cdot 2^5 + 0 \cdot 2^4 + 0 \cdot 2^3 + 0 \cdot 2^2 + 1 \cdot 2^1 + 0 \cdot 2^0$

6.  $4568_{10} \rightarrow 1000111011000_2$

4568  $\div 2 = 2284$  r 0  
 2284  $\div 2 = 1142$  r 0  
 1142  $\div 2 = 571$  r 0  
 571  $\div 2 = 285$  r 1  
 285  $\div 2 = 142$  r 1  
 142  $\div 2 = 71$  r 0  
 71  $\div 2 = 35$  r 1  
 35  $\div 2 = 17$  r 1  
 17  $\div 2 = 8$  r 1  
 8  $\div 2 = 4$  r 0  
 4  $\div 2 = 2$  r 0  
 2  $\div 2 = 1$  r 0  
 1  $\div 2 = 0$  r 1

7.  $3200_{10} \rightarrow 110010000000_2$

3200  $\div 2 = 1600$  r 0  
 1600  $\div 2 = 800$  r 0  
 800  $\div 2 = 400$  r 0  
 400  $\div 2 = 200$  r 0  
 200  $\div 2 = 100$  r 0  
 100  $\div 2 = 50$  r 0  
 50  $\div 2 = 25$  r 0  
 25  $\div 2 = 12$  r 1  
 12  $\div 2 = 6$  r 0  
 6  $\div 2 = 3$  r 0  
 3  $\div 2 = 1$  r 1  
 1  $\div 2 = 0$  r 1

8.  $587_{10} \rightarrow 1001001011_2$

587  $\div 2 = 293$  r 1  
 293  $\div 2 = 146$  r 1  
 146  $\div 2 = 73$  r 0  
 73  $\div 2 = 36$  r 1  
 36  $\div 2 = 18$  r 0  
 18  $\div 2 = 9$  r 0  
 9  $\div 2 = 4$  r 1  
 4  $\div 2 = 2$  r 0  
 2  $\div 2 = 1$  r 0  
 1  $\div 2 = 0$  r 1

9.  $8672_{10} \rightarrow 10000111100000_2$

8672  $\div 2 = 4336$  r 0  
 4336  $\div 2 = 2168$  r 0  
 2168  $\div 2 = 1084$  r 0  
 1084  $\div 2 = 542$  r 0  
 542  $\div 2 = 271$  r 0  
 271  $\div 2 = 135$  r 1  
 135  $\div 2 = 67$  r 1  
 67  $\div 2 = 33$  r 1  
 33  $\div 2 = 16$  r 1  
 16  $\div 2 = 8$  r 0  
 8  $\div 2 = 4$  r 0  
 4  $\div 2 = 2$  r 0  
 2  $\div 2 = 1$  r 0  
 1  $\div 2 = 0$  r 1

10.  $10000_{10} \rightarrow 10011100010000_2$

10000  $\div 2 = 5000$  r 0  
 5000  $\div 2 = 2500$  r 0  
 2500  $\div 2 = 1250$  r 0  
 1250  $\div 2 = 625$  r 0  
 625  $\div 2 = 312$  r 1  
 312  $\div 2 = 156$  r 0  
 156  $\div 2 = 78$  r 0  
 78  $\div 2 = 39$  r 0  
 39  $\div 2 = 19$  r 1  
 19  $\div 2 = 9$  r 1  
 9  $\div 2 = 4$  r 1  
 4  $\div 2 = 2$  r 0  
 2  $\div 2 = 1$  r 0  
 1  $\div 2 = 0$  r 1