

Ejercicio 2:

Convertir los siguientes números en binario a decimal y a hexadecimal:

Binario	Decimal	Hexadecimal
$(11110011110000011)_2$	59267	E783
$(101101111001101000101111)_2$	6003247	5B9A2F
$(10110011011011.11000010000)_2$	11483.7578125	2CDB.C2
$(10001111110100011111.000001101)_2$	589087.02534	8FD1F.068

$$\begin{aligned}
 & \text{E} \quad \text{7} \quad \text{8} \quad \text{3} \\
 & 11110011110000011 = 2^{15} + 2^{14} + 2^{13} + 2^{10} + 2^9 + 2^8 + 2^7 + 2^1 + 2^0 \\
 & = 32768 + 16384 + 8192 + 1024 + 512 + 256 + 128 + 2 + 1 \\
 & = 59267
 \end{aligned}$$

$$\begin{aligned}
 & \text{5} \quad \text{B} \quad \text{9} \quad \text{A} \quad \text{2} \quad \text{F} \\
 & 10110111001101000101111 = 2^{22} + 2^{20} + 2^{19} + 2^{17} + 2^{16} + 2^{15} + 2^{12} + 2^4 + 2^9 + 2^5 + 2^3 + 2^2 + 2^1 + 2^0 \\
 & = 6003247
 \end{aligned}$$

$$\begin{aligned}
 & \text{2} \quad \text{C} \quad \text{D} \quad \text{B} \quad \text{C} \quad \text{2} \\
 & 10110011011011.11000010000 = 2^{13} + 2^{11} + 2^{10} + 2^7 + 2^6 + 2^4 + 2^3 + 2^1 + 2^0 + 2^{-1} + 2^{-2} + 2^{-7} \\
 & = 8192 + 2048 + 1024 + 128 + 64 + 16 + 8 + 2 + 1 + 0.5 + 0.25 + 0.0078125 \\
 & = 11483.7578125
 \end{aligned}$$

$$\begin{aligned}
 & \text{8} \quad \text{F} \quad \text{D} \quad \text{1} \quad \text{F} \quad \text{0} \quad \text{6} \quad \text{8} \quad (\text{completo con 0s}) \\
 & 100011111010001111.000001101 = 2^{19} + 2^{15} + 2^{14} + 2^{13} + 2^{12} + 2^{11} + 2^{10} + 2^8 + 2^4 + 2^3 + 2^2 + 2^1 + 2^0 + 2^{-6} + 2^{-7} + 2^{-9} \\
 & = 589087.02534
 \end{aligned}$$