Hexadecimal / Decimal

BytesOfProgress

Converting Decimal to Hexadecimal: $239_{10} \rightarrow X_{16}$

The Hexadecimal system has 16 numbers: It ranges from 0 to 15, or from 0 to F:
1, 2, 3, 4, 5, 6, 7, 8, 9, A, B, C, D, E, F.

$239 : 16 = 14,9375 \quad | 239 - 16 \cdot 14 = 15 = F$

$14 : 16 = 0,875 \quad | 14 - 16 \cdot 0 = 14 = E$

EF_{16}

Converting Hexadecimal to Decimal: $EF_{16} \rightarrow X_{10}$

This works similarly to converting from binary to decimal. We write down the bits, fill in the hexadecimal number and add up.

1)

16^3	16^2	16^1	16^0
4096	256	16	1
		E	F

2) $15 \cdot 1 = 15$

$16 \cdot 14 = 224$

3) $224 + 15 = 239_{10}$

$EF_{16} = 239_{10}$