

1. a. 10011011_2

$$(2^7 \cdot 1) + (2^6 \cdot 0) + (2^5 \cdot 0) + (2^4 \cdot 1) + (2^3 \cdot 1) + (2^2 \cdot 0) + (2^1 \cdot 1) + (2^0 \cdot 1)$$

155

b. 1101101_2

$$(2^6 \cdot 1) + (2^5 \cdot 1) + (2^4 \cdot 0) + (2^3 \cdot 1) + (2^2 \cdot 1) + (2^1 \cdot 0) + (2^0 \cdot 1)$$

109

c. $3A8_{16}$

$$(16^2 \cdot 3) + (16^1 \cdot A) + (2^0 \cdot 8)$$

936

d. 2214_5

$$(5^3 \cdot 2) + (5^2 \cdot 2) + (5^1 \cdot 1) + (5^0 \cdot 4)$$

309

2. a. 69_{10}

$$64 + 4 + 1$$

$$(2^6 \cdot 1) + (2^2 \cdot 1) + (2^0 \cdot 1)$$

1000101

b. 486_{10}

$$256 + 128 + 64 + 32 + 4 + 2$$

$$(2^8 \cdot 1) + (2^7 \cdot 1) + (2^6 \cdot 1) + (2^5 \cdot 1) + (2^4 \cdot 0) + (2^3 \cdot 0) + (2^2 \cdot 1) + (2^1 \cdot 1) + (2^0 \cdot 0)$$

111100110

c. $6D1A_{16}$

using the hexa to 4 digit binary chart

0110110100011010