Tutorial 2 – Problem 6

Consider the following binary numbers. Convert each of them to its equivalent decimal number. Let us show our work, i.e., show how we get to our answer.

a. 10010011_2

b. 00001100_2

c. 11110011_2

d. 01010010_2

e. 01110110_2

Answer (showing work):

binary	decimal
a. 10010011_2	$1 \times 2^0 = 1$ $1 \times 2^1 = 2$ $0 \times 2^2 = 0$ $0 \times 2^3 = 0$ $1 \times 2^4 = 16$ $0 \times 2^5 = 0$ $0 \times 2^6 = 0$ $1 \times 2^7 = 128$ Answer: 147_{10}
b. 00001100_2	Answer: 12_{10}
c. 11110011_2	Answer: 243_{10}
d. 01010010_2	Answer: 82_{10}
e. 01110110_2	Answer: 118_{10}