Exercícios Suplementares

1) a) $10001100_2 \rightarrow 10 = 4+8+128 = 140_{10}$ //

b) $\underset{2}{10}\underset{3}{01}\underset{6}{10}_2 \rightarrow 8 = 236_8$ //

c) $\underset{6}{11}\underset{A}{01}\underset{}{10}_2 \rightarrow 16 = 6A_{16}$ //

d) $10100001_2 \rightarrow 10 = 1+16+64 = 81_{10}$ //

e) $\underset{1}{11}\underset{7}{11}\underset{0}{000}_2 \rightarrow 8 = 170_8$ //

2) b

3) a) $891_{10} \rightarrow 8 = 1\,5\,7\,3 = 1573_8$ //

$891 - 512 = 379$; $379 - 256 = 123$; $123 - 64 = 59$; $59 - 32 = 27$; $27 - 16 = 11$; $11 - 8 = 3$; $3 - 2 = 1$; $1 - 1 = 0$

8 números "1" na conversão

b) $891_{10} \rightarrow 16 = 3\,7\,B = 37B_{16}$ //

4) $1573_8 = 1\times8^3 + 5\times8^2 + 7\times8^1 + 3\times8^0$

$37B_{16} = 3\times16$

5) a) $XXI_2 \rightarrow 10 = 1101111 = 111_{10}$//

64 − 47 = ... 32 15 8 7

7 −4 3 −2 1 −1 0

b) $777_8 \rightarrow 10 = 111\ 111\ 111 = 511_{10}$

448 + 56 + 7

c) $FEC_{16} \rightarrow 10 = 1111\ 1110\ 1100 = 4076_{10}$

d) $777_{16} \rightarrow 10 = 0111\ 0111\ 0111 = 1911_{10}$

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6) ?

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7) São Potencias da base 2

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8) a) $111110110_2 \rightarrow 8 = 766_8$//

7 6 6

b) $1000001_2 \rightarrow 8 = 101_8$//

1 0 1

c) $10000010_2 \rightarrow 8 = 202_8$//

2 0 2

d) $1100010_2 \rightarrow 8 = 142_8$//

1 4 2

9) a) $10101001_2 \rightarrow 16 = A9_{16}$ //
(A 9)

b) $11100111_2 \rightarrow 16 = E7_{16}$ //
(E 7)

c) $01101110_2 \rightarrow 16 = 6E_{16}$ //
(6 E)

d) $112 1111_2 \rightarrow 16 = Erro$ //

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10) a) $A9_{16} \rightarrow 8 = 10\,101\,001_2 = 251_8$ //
(2 5 1)

b) $E7_{16} \rightarrow 8 = 11100111_2 = 347_8$ //
(3 4 7)

c) $6E_{16} \rightarrow 8 = 01101110_2 = 156_8$ //
(1 5 6)

d) $FOCA_{16} \rightarrow 8 = 1111\,0000\,1100\,1010_2 = 170312_8$ //
(1 7 0 3 1 2)

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11) a) $777_8 \rightarrow 16 = 111\,111\,111_2 = 1FF_{16}$ //
(1 F F)

b) $605_8 \rightarrow 16 = 110\,000\,101_2 = 185_{16}$ //
(1 8 5)

c) $443_8 \rightarrow 16 = 100\,100\,011_2 = 123_{16}$ //
(1 2 3)

d) $521_8 \rightarrow 16 = 101\,010\,001_2 = 151_{16}$ //
(1 5 1)

12) a) $901_{10} \rightarrow 8 = 1110000101_2 = 1605_{8\,u}$

512 | 05
389 | 04
-256 | 01
133 | 1
-128 | 0 u
005

b) $321_{10} \rightarrow 8 = 101000001_2 = 501_{8\,u}$

256
065
64
01
01
00

c) $1492_{10} \rightarrow 8 = 10111010100_2 = 1352_{8\,u}$

1024
0468
256
212
128
84
-64
120
16
04

d) $1066_{10} \rightarrow 8 = 10000101010_2 = 2052_{8\,u}$

1024
0042
-32
10
-8
02
02
0

13) a) $45_{10} \rightarrow 2 = 101101_2$

-32

13

-08

05

04

01

1

0

b) $69_{10} \rightarrow 2 = 1000101_2$

c) $1066_{10} \rightarrow 2 = 10000101010_2$

d) $99_{10} \rightarrow 2 = 1100011_2$

14) a) $1066_{10} \rightarrow 16 = 10000101010_2 = 42A_{16}$

b) $1939_{10} \rightarrow 16 = 11110010011_2 = 793_{16}$

c) $998_{10} \rightarrow 16 = 1111100110_2 = 3E6_{16}$

d) $43_{10} \rightarrow 16 = 101011_2 = 2B_{16}$

15) a) $504 + 437 = 941_{10} = 1110101101_2 = 1655_8$

b) $65 + 455 = 520_{10} = 1000001000_2 = 2028$

c) $129 + 439 = 568_{10} = 1000111000_2 = 2178$

16) a) $127 + 67 = 11110111_2 = EE_{16}$

b) $2794 + 15 = 2809_{10} = 101011111001_2 = AF9_{16}$

c) $262 + 61.642 = 61.904 = 1111000111010_2 = 1E3A_{16}$

17) a) $566 - 510 = 56_{10} = 00111110_2 = 168_8$

b) $83 - 62 = 21_{10} = 10101_2 = 25_8$

c) $510 - 364 = 146_{10} = 10100110_2 = 246_8$

18) a) $2748 - 273 = 2475_{10} = 100110101011_2 = 9AB_{16}$

b) $2456 - 171 = 2285_{10} = 100011101101_2 = 8ED_{16}$

c) $2719 - 329 = 2390_{10} = 100101010111 = 957_{16}$

19) 1 byte contém 8 bits.

20) 8 bytes, logo 64 bits.

21) Se 1 é impar.
Se 0 é par.