1. Convertire

|  |  |  |  |
| --- | --- | --- | --- |
| 347 | 43 | 5 | 0 |
| 3 | 3 | 5 |  |

3478 = 533

|  |  |  |  |
| --- | --- | --- | --- |
| 2755 | 172 | 10 | 0 |
| 3 | 12 | 10 |  |

275516 = AC3

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 20 | 10 | 5 | 2 | 1 | 0 |
| 0 | 0 | 1 | 0 | 1 |  |

202 = 10100

1. Convertire in baza 10

1000101 = 1\*26 + 0\*25 + 0\*24 + 0\*23 + 1\*22 + 0\*21 + 1\*20

= 64 + 4 + 1 = 69

357 = 3\*82 + 5\*81 + 7\*80

= 3\*64 + 40 + 7 = 192 + 47 = 239

C7A = 12\*162 + 7\*161 + 10\*160

= 12\*256 + 112 + 10

= 3072 + 122 = 3194

1. Operatii

a)

FA16 = 15\*161 + 10\*160

= 240 + 10 = 250

2316 = 2\*161 + 3\*160

= 32 + 3 = 35

250 + 35 = 285

|  |  |  |  |
| --- | --- | --- | --- |
| 285 | 17 | 1 | 0 |
| 13 | 1 | 1 |  |

285 = 11D

b)

1101 00102 + 1110 11012=

1101 0010

1110 1101

-------------- +

1.1011 1111

c)

11768 -7238 =

C1(723) = 0548

C2(723) = 0558 = -7238

11768 +0558 = 12538

1. Convertire din baza 2 in baza 8 si 16

a)

(10101010.110010)2 = (1 × 27) + (0 × 26) + (1 × 25) + (0 × 24) + (1 × 23) + (0 × 22) + (1 × 21) + (0 × 20) + (1 × 2-1) + (1 × 2-2) + (0 × 2-3) + (0 × 2-4) + (1 × 2-5) + (0 × 2-6) = 128 + 32 + 8 + 2 + ½ + ¼ + 1/32 = 170.78125

170.78125 × baza la puterea numarul de cifre dupa virgula

170.78125 × 85 = 5596160

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 5596160 | 699520 | 87440 | 10930 | 1366 | 170 | 21 | 2 | 0 |
| 0 | 0 | 0 | 2 | 6 | 2 | 5 | 2 |  |

(10101010.110010)2 = (252.62)8

170.78125 × 165 = 179077120

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 179077120 | 11192320 | 699520 | 43720 | 2732 | 170 | 10 | 0 |
| 0 | 0 | 0 | 8 | 12 | 10 | 10 |  |

(10101010.110010)2 = (AA.C8)16

b)

(1100010.11101)2 = (1 × 26) + (1 × 25) + (0 × 24) + (0 × 23) + (0 × 22) + (1 × 21) + (0 × 20) + (1 × 2-1) + (1 × 2-2) + (1 × 2-3) + (0 × 2-4) + (1 × 2-5) = 64 + 32 + 2 + ½ + ¼ + 1/8 +1/32 = 98 + 0.5 + 0.25 + 0.125 + 0.03125 = 98.90625

98.90625 × 85 = 3240960

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 3240960 | 405120 | 50640 | 6330 | 791 | 98 | 12 | 1 | 0 |
| 0 | 0 | 0 | 2 | 7 | 2 | 4 | 1 |  |

(1100010.11101)2 = (142.72)8

98.90625 × 165 = 103710720

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 103710720 | 6481920 | 405120 | 25320 | 1582 | 98 | 6 | 0 |
| 0 | 0 | 0 | 8 | 14 | 2 | 6 |  |

(1100010.11101)2 = (62.E8)16

1. Convertire din baza 10 in baza 4

175.1285 × 45 = 179331.584

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 179331.584 | 44832 | 11208 | 2802 | 700 | 175 | 43 | 10 | 2 | 0 |
| 4 | 0 | 0 | 2 | 0 | 3 | 3 | 2 | 2 |  |

(175.1285)10 = (2233.02004)

(nu stiu exact cum sa fac aici)