1. Executaţi operaţiile aritmetice cu precizia de 2 cifre după virgulă (выполнить арифметические операции с точностью до 2-х цифр после запятой):

a) 1010111,012 : 1011,012 =

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 |  |  |  |  |  |  |
|  | 1 | 0 | 1 | 1 | 0 | 1 |  |  | 1 | 1 | 1. | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |  |
|  | 1 | 0 | 1 | 0 | 1 | 0 | 0 |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | 1 | 0 | 1 | 1 | 0 | 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | 1 | 0 | 0 | 1 | 1 | 1 | 1 |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  | 1 | 0 | 1 | 1 | 0 | 1 |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  | 1 | 0 | 0 | 0 | 1 | 0 | 0 |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  | 1 | 0 | 1 | 1 | 0 | 1 |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  | 1 | 0 | 1 | 1 | 1 | 0 |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  | 1 | 0 | 1 | 1 | 0 | 1 |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  | 1 | 0 | 0 | 0 | 0 | 0 | 0 |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  | 1 | 0 | 1 | 1 | 0 | 1 |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  | 1 | 0 | 0 | 1 | 1 |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

b) 564,3768 – 367,538 =

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | \* | \*10 | \*10 | 10 |  |  |  |
|  |  |  | 5 | 6 | 4. | 3 | 7 | 6 | - |
|  |  |  | 3 | 6 | 7. | 5 | 3 |  |  |
|  |  |  | 1 | 7 | 4. | 6 | 4 | 6 |  |

c) 2F3,816 + E,C16 =

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | 1 | 1 | 1 |  |  |
|  |  |  | 2 | F | 3. | 8 | + |
|  |  |  |  |  | E. | C |  |
|  |  |  | 3 | 0 | 2 | 4 |  |

d) A2,416 x 95,F16 =

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  | 3 |  |  |
|  |  |  |  |  |  | A | 2. | 4 | \* |
|  |  |  |  |  |  | 9 | 5. | F |  |
|  |  |  |  |  | 9 | 8 | 1 | C |  |
|  |  |  |  | 3 | 2 | B | 4 |  |  |
|  |  |  | 5 | B | 4 | 4 |  |  |  |
|  |  |  | 5 | F | 0 | 7 | 5 | C |  |
|  |  |  |  |  |  |  |  |  |  |

1E+3=21

96+2=98

12+2=14

5A+1=5B

2. Efectuaţi conversia numărului A53,4D16 în număr binar, octal şi zecimal cu precizia de 2 cifre după virgulă

Binar:

A53,4D16 = 1010 0101 0011, 0100 11012

Octal:

A53,4D16 = 101 001 010 011,010 011 0102= 5123,2328

Zecimal:

A53,4D16 = A \* 162 + 5 \* 161 + 3 \* 1 + 4\*16-1 + D \* 16-2 = 2560 + 80 + 3 + 0.25 + 0.05 =

3. Prezentaţi numărul ±C3416 în cod complementar

3.1) +C3416 in cod coplementar

Pasu 1:

Convertam in binar

+C3416 = 1100 0011 01002

Deoarece numarul este pozitiv codul sau complimentar coincide cu codul sau direct si este:

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 |
| 15 S | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |

3.2) -C3416 in cod coplementar

Pasu 1:

Convertam in binar

-C3416 = 1100 0011 01002

Pentru reprezentarea codului complementar al unui numar negative vom parcurce urmatorii pashi:

1)cod direct

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 |
| 15 S | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |

2)cod invers

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 1 |
| 15 S | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |

3)cod complimentar

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 |
| 15 S | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |

4. Efectuaţi conversia numărului 677,438 în număr binar, zecimal şi hexazecimal

Binar:

677,438 = 110 111 111, 100 0112

Zecimal:

677,438 = 6\*82 + 7\*81 + 7\*80 + 4\*8-1 + 3\*8-2 =

Hexazecimal:

677,438 = 0001 1011 1111, 1000 11002 = 1BF,8C16

5. Prezentaţi numărul 7238 în codul zecimal-binar 7421

7238 = 7 \* 82 + 2\*81 + 3\*80 = 46710 = 0100 0110 00112