Домашнее задание 7. Лысенко Данила P3110, Вариант 4.

A = 2,3; B = 0,029

*1. Ф1*

*А* = 2,3 = (2.4(C))16 = (0,25)·161;

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

*В* = 0,029 = (0.076C)16 = (0,77)16·16-1.

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

XC = XA – XB + d

d + PC = PA + d – PB –d + d

PC

XC = 1 –(-1) +64 = 66

PC = 2

|  |  |  |  |
| --- | --- | --- | --- |
| **N шага** | **Действие** | **Делимое** | **Частное** |
| **0** | *МА*  [-*МB*]доп  *R*0 | **0 0 0 1 0 0 1 0 1**  **1 1 0 0 0 1 0 0 1**  **1 1 0 1 0 1 1 1 0** | **0 0 0 0 0 0 0 0**  **0 0 0 0 0 0 0 0** |
| **1** | ←*R*0  *МBпр*  *R*1 | **1 0 1 0 1 1 1 0 0**  **0 0 1 1 1 0 1 1 1**  **1 1 1 0 1 0 0 1 1** | **0 0 0 0 0 0 0 0**  **0 0 0 0 0 0 0 0** |
| **2** | ←*R*1  *МBпр*  *R*2 | **1 1 0 1 0 0 1 1 0**  **0 0 1 1 1 0 1 1 1**  **0 0 0 0 1 1 1 0 1** | **0 0 0 0 0 0 0 0**  **0 0 0 0 0 0 0 1** |
| **3** | ←*R*2  *[-МB]доп*  *R*3 | **0 0 0 1 1 1 0 1 0**  **1 1 0 0 0 1 0 0 1**  **1 1 1 0 0 0 0 1 1** | **0 0 0 0 0 0 1 0**  **0 0 0 0 0 0 1 0** |
| **4** | ←R3  *МBпр*  *R*4 | **1 1 0 0 0 0 1 1 0**  **0 0 1 1 1 0 1 1 1**  **1 1 1 1 1 1 1 0 1** | **0 0 0 0 0 1 0 0**  **0 0 0 0 0 1 0 0** |
| **5** | ←*R*4  *МBпр*  *R*5 | **1 1 1 1 1 1 0 1 0**  **0 0 1 1 1 0 1 1 1**  **0 0 1 1 1 0 0 0 1** | **0 0 0 0 1 0 0 0**  **0 0 0 0 1 0 0 1** |
| **6** | ←*R*5  [-*МB*]доп  *R*6 | **0 1 1 1 0 0 0 1 0**  **1 1 0 0 0 1 0 0 1**  **0 0 1 1 0 1 0 1 1** | **0 0 0 1 0 0 1 0**  **0 0 0 1 0 0 1 1** |
| **7** | ←*R*6  *[-МB]доп*  *R*7  *МС*→ | **0 1 1 0 1 0 1 1 0**  **1 1 0 0 0 1 0 0 1**  **0 0 1 0 1 1 1 1 1** | **0 0 1 0 0 1 1 0**  **0 0 1 0 0 1 1 1** |
| **8** | ←*R7*  [-*МB*]доп  *R8* | **0 1 0 1 1 1 1 1 0**  **1 1 0 0 0 1 0 0 1**  **0 0 1 0 0 0 1 1 1** | **0 1 0 0 1 1 1 0**  **0 1 0 0 1 1 1 1** |

C = 0,01001111 \* 162 = 79

CT = 79,310

Абсолютная погрешность ΔC = CT - С\* = 79 – 79,310= 0,310

Относительная погрешность δС = | 0,310 / 79,310| \* 100% ≈ 0,39%

Погрешность полученного результата можно объяснить неточным представлением операндов

2. Ф2

*А* = 2,3 = (10,010011)2 = 1,00100112 \* 21

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

*В* = 0,029 = (0.000001110110110010001011)2 = 1,1101101 \* 2-6

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

XC = XA – XB + d

d + PC = PA + d – PB –d + d

PC

XC = 1 –(-6) +64 = 71

PC = 7

|  |  |  |  |
| --- | --- | --- | --- |
| **N шага** | **Действие** | **Делимое** | **Частное** |
| **0** | *МА*  [-*МB*]доп  *R*0 | **0 1 0 0 1 0 0 1 1**  **1 0 0 0 1 0 0 1 1**  **1 1 0 1 0 0 1 1 0** | **0 0 0 0 0 0 0 0**  **0 0 0 0 0 0 0 0** |
| **1** | ←*R*0  *МBпр*  *R*1 | **1 0 1 0 0 1 1 0 0**  **0 1 1 1 0 1 1 0 1**  **0 0 0 1 1 1 0 0 1** | **0 0 0 0 0 0 0 0**  **0 0 0 0 0 0 0 1** |
| **2** | ←*R*1  [-*МB*]доп  *R*2 | **0 0 1 1 1 0 0 1 0**  **1 0 0 0 1 0 0 1 1**  **1 1 0 0 0 0 1 0 1** | **0 0 0 0 0 0 1 0**  **0 0 0 0 0 0 1 0** |
| **3** | ←*R*2  *МBпр*  *R*3 | **1 0 0 0 0 1 0 1 0**  **0 1 1 1 0 1 1 0 1**  **1 1 1 1 1 0 1 1 1** | **0 0 0 0 0 1 0 0**  **0 0 0 0 0 1 0 0** |
| **4** | ←R3  *МBпр*  *R*4 | **1 1 1 1 0 1 1 1 0**  **0 1 1 1 0 1 1 0 1**  **0 1 1 0 1 1 0 1 1** | **0 0 0 0 1 0 0 0**  **0 0 0 0 1 0 0 1** |
| **5** | ←*R*4  [-*МB*]доп  *R*5 | **1 1 0 1 1 0 1 1 0**  **1 0 0 0 1 0 0 1 1**  **0 1 1 0 0 1 0 0 1** | **0 0 0 1 0 0 1 0**  **0 0 0 1 0 0 1 1** |
| **6** | ←*R*5  [-*МB*]доп  *R*6 | **1 1 0 0 1 0 0 1 0**  **1 0 0 0 1 0 0 1 1**  **0 1 0 1 0 0 1 0 1** | **0 0 1 0 0 1 1 0**  **0 0 1 0 0 1 1 1** |
| **7** | ←*R*6  *[-МB]доп*  *R*7  *МС*→ | **1 0 1 0 0 1 0 1 0**  **1 0 0 0 1 0 0 1 1**  **0 0 1 0 1 1 1 0 1** | **0 1 0 0 1 1 1 0**  **0 1 0 0 1 1 1 1** |
| **8** | ←*R7*  [-*МB*]доп  *R8* | **0 1 0 1 1 1 0 1 0**  **1 0 0 0 1 0 0 1 1**  **1 1 1 0 0 1 1 0 1** | **1 0 0 1 1 1 1 0**  **1 0 0 1 1 1 1 0** |

C = (0,1001110)2 \* 27 = 79

CT = 79,310

Абсолютная погрешность ΔC = CT - С\* = 79 – 79,310= 0,310

Относительная погрешность δС = | 0,310 / 79,310| \* 100% ≈ 0,39%

Погрешность полученного результата можно объяснить неточным представлением операндов