Rechnen im Binärsystem

# Subtraktion

1. 10 10102 – 10012 = 42 – 9 = 33

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

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

= 0010 00012 = 3310

1. 0011 1011 – 0000 1101 = 59 – 13 = 46

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

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

= 0010 11102 = 4610

1. 0111 1101 – 0001 1111 = 125 – 31 = 94

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

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

= 0101 11102 = 9410

1. 0010 1101 – 0010 0111 = 45 – 39 = 6

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

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

= 0000 01102 = 610