



Двоичная арифметика

Сложение

$$0 + 0 = 0$$

$$0 + 1 = 1$$

$$1 + 0 = 1$$

$$1 + 1 = 10$$

$$\begin{array}{r} \overset{\text{red arc}}{+} 1010 \\ + 1011 \\ \hline 10101 \end{array}$$

$$\begin{array}{r} \overset{1}{\text{blue}} \overset{1}{\text{green}} \overset{1}{\text{purple}} \\ + 111 \\ + 1 \\ \hline 101110 \end{array}$$

- 1) $101100 + 10011 = 111111$
- 2) $111011 + 1001111 = 10001010$

Умножение

$$0 * 0 = 0$$

$$0 * 1 = 0$$

$$1 * 0 = 0$$

$$1 * 1 = 1$$

$$\begin{array}{r} * 101 \\ \hline 101 \\ + 000 \\ 101 \\ \hline 11001 \end{array}$$

$$\begin{array}{r} * 111 \\ \hline 111 \\ + 111 \\ 111 \\ 111 \\ \hline 1101001 \end{array}$$

1) $1011 * 11 = 100001$

2) $101 * 1001 = 101101$

Вычитание

$$0 - 0 = 0$$

$$1 - 0 = 1$$

$$1 - 1 = 0$$

$$10 - 1 = 1$$

$$\begin{array}{r} 1011 \\ - 1010 \\ \hline \color{red}{0001} \end{array} \qquad \begin{array}{r} \color{red}{0\ 1\ 10} \\ 1001 \\ - 110 \\ \hline \color{red}{0011} \end{array}$$

$$1) \quad 1011 - 101 = \color{red}{110}$$

$$2) \quad 10001 - 1101 = \color{red}{100}$$

Выполнить самостоятельно

1 вариант

1) $110111 + 1110111 =$

2) $1001111 + 111001 =$

3) $100011 - 1110 =$

4) $1100110 - 1000111 =$

5) $10011 * 110 =$

6) $11011 * 1010 =$

2 вариант

1) $110101 + 1010101 =$

2) $1101101 + 101011 =$

3) $101011 - 11010 =$

4) $1110110 - 1010111 =$

5) $11001 * 1011 =$

6) $10011 * 111 =$