# Binary to Denary Number Conversions

**Convert the Binary Number 1101 to denary**

**Step 1** – add the binary numbers to a table.

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

**Step 2** – starting with the right-hand side write the denary number one in the right-hand cell. For every cell to the left you should double the number. You will have the following table:

|  |  |  |  |
| --- | --- | --- | --- |
| 8 | 4 | 2 | 1 |
| 1 | 0 | 1 | 1 |

**Step 3** – multiply the values in the table

1 × 8 =   
0 × 4 =   
1 × 2 =   
1 × 1 =

**Step 4** – Add the values together

Answer \_\_\_\_\_\_\_\_\_\_\_

**Convert the Binary Number 1001 to Denary**

The empty table below has been provided to help you.

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

Answer \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Convert the binary number 1111 to denary

# Denary to Binary Number Conversions

**Convert the Denary Number 9 to Binary**

The first step has been completed for you.

9/2 = 4 Remainder 1

4/2 = Remainder

Remainder

Remainder

Write the remainders from bottom to top to find the answer: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Convert the Denary Number 14 to Binary**

# Extension Task

**Convert 8 bit binary numbers to denary**

Using the method detailed above convert the binary number 11011011 into denary.

Choose a denary number between 128 and 255. Demonstrate how it can be converted into binary.