**Worksheet 1**

**Converting Binary to Decimal**

**Name: Class: 7th**

Use the following table to help you to convert the Decimal numbers to Binary Numbers:

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 210 | 29 | 28 | 27 | 26 | 25 | 24 | 23 | 22 | 21 | 20 |
| 1024 | 512 | 256 | 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 |

Write each binary number as a decimal number:

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1- Binary = (10011) 2  =1+2+16=19  Decimal =19   |  |  |  |  |  | | --- | --- | --- | --- | --- | | 16 | 8 | 4 | 2 | 1 | | 1 | 0 | 0 | 1 | 1 |   ✔ ✖ ✖ ✔ ✔ | 2- Binary = (10000) 2 =16  Decimal =16   |  |  |  |  |  | | --- | --- | --- | --- | --- | | 16 | 8 | 4 | 2 | 1 | | 1 | 0 | 0 | 0 | 0 |   ✔ ✖ ✖ ✖ ✖ |
| 3- Binary = (101011) 2 =1+2+8+32  Decimal =43   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | 32 | 16 | 8 | 4 | 2 | 1 | | 1 | 0 | 1 | 0 | 1 | 1 |   ✔ ✖ ✔ ✖ ✔ ✔ | 4- Binary = (1111) 2 =8+4+2+1  Decimal = 15   |  |  |  |  | | --- | --- | --- | --- | | 8 | 4 | 2 | 1 | | 1 | 1 | 1 | 1 |   ✔ ✔ ✔ ✔ |
| 5- Binary = (110011) 2 =1+2+16+32  Decimal =51   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | 32 | 16 | 8 | 4 | 2 | 1 | | 1 | 1 | 0 | 0 | 1 | 1 |   ✔ ✔ ✖ ✖ ✔ ✔ | 6-Binary = (11000) 2=16+8  Decimal =24   |  |  |  |  |  | | --- | --- | --- | --- | --- | | 16 | 8 | 4 | 2 | 1 | | 1 | 1 | 0 | 0 | 0 |   ✔ ✔ ✖ ✖ ✖ |