**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  Decimal =(1\*1)+(1\*8)+(1\*16)  1+8+16=25   |  |  |  |  |  | | --- | --- | --- | --- | --- | | 1 | 2 | 4 | 8 | 16 | | 1 | 0 | 0 | 1 | 1 | | 2- Binary = (10000) 2  Decimal =(1\*1)  =1   |  |  |  |  |  | | --- | --- | --- | --- | --- | | 1 | 2 | 4 | 8 | 16 | | 1 | 0 | 0 | 0 | 0 | |
| 3- Binary = (101011) 2  Decimal =(1\*1)+(1\*4)+(1\*16)+(1\*32)  1+4+16+32=  =53   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | 1 | 2 | 4 | 8 | 16 | 32 | | 1 | 0 | 1 | 0 | 1 | 1 | | 4- Binary = (1111) 2  Decimal =(1\*1)+(1\*2)+(1\*4)+(1\*8)  1+2+4+8=  =15   |  |  |  |  | | --- | --- | --- | --- | | 1 | 2 | 4 | 8 | | 1 | 1 | 1 | 1 | |
| 5- Binary = (110011) 2  Decimal =(1\*1)+(1\*2)+(1+16)+(1\*32)  1+2+16+32=  =52   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | 1 | 2 | 4 | 8 | 16 | 32 | | 1 | 1 | 0 | 0 | 1 | 1 | | 6-Binary = (11000) 2  Decimal =(1\*1)+(1\*2)  1+2=  =3   |  |  |  |  |  | | --- | --- | --- | --- | --- | | 1 | 2 | 4 | 8 | 16 | | 1 | 1 | 0 | 0 | 0 | |