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