R G B

1 1 1

1 bit: 2 colors

* 1: white
* 0: black

2 bits: 4 colors

* 00
* 01
* 10
* 11

3 bits: 8 colors

* 000, 001, 010, 100
* 011, 110, 101
* 111

N bits: 2^n colors

R G B

3 3 3

R: 8 colors

G: 8 colors

B: 8 colors

Total = 8 ^ 3 = 512 colors

Each color of R, G and B gets 4 bits

* Each color has 2 ^ 4 = 16 colors
* We have 3 colors or R, G and B, meaning the total color combinations is 16 \* 16 \* 16 = 16^3 = 4096 total colors

11011

0001.1011 = 1B

346 (base-10) = 101011010

Result Remainder

346 / 2 173 0

173 / 2 86 1

86 / 2 43 0

43 / 2 21 1

21 / 2 10 1

10 / 2 5 0

5 / 2 2 1

2 / 2 1 0

1 / 2 **0** 1