# Number of Possible Values Based on Bit Size

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| Bits | Possible Values (Unsigned) | Range (Signed) |
| 1 | 2^1 = 2 | -1 to 0 |
| 8 | 2^8 = 256 | -128 to 127 |
| 16 | 2^16 = 65,536 | -32,768 to 32,767 |
| 32 | 2^32 = 4,294,967,296 | -2,147,483,648 to 2,147,483,647 |
| 64 | 2^64 = 18,446,744,073,709,551,616 | -9,223,372,036,854,775,808 to 9,223,372,036,854,775,807 |
| 128 | 2^128 = 3.40 × 10^38 | -1.70 × 10^38 to 1.70 × 10^38 |
| 256 | 2^256 ≈ 1.16 × 10^77 | -5.8 × 10^76 to 5.8 × 10^76 |