

## Common Whole Number Powers (Roots by reading to left)

### (Handy Dandy Power/Root Table)

Bases are on the left, exponents are across the top:

| $x^n$ | 0 | 1  | 2     | 3     | 4     | 5    | 6    | 7    | 8    | 9   | 10   | 11   | 12   | ... | n     |
|-------|---|----|-------|-------|-------|------|------|------|------|-----|------|------|------|-----|-------|
| 0     | ? | 0  | 0     | 0     | 0     | 0    | 0    | 0    | 0    | 0   | 0    | 0    | 0    |     | 0     |
| 1     | 1 | 1  | 1     | 1     | 1     | 1    | 1    | 1    | 1    | 1   | 1    | 1    | 1    |     | 1     |
| 2     | 1 | 2  | 4     | 8     | 16    | 32   | 64   | 128  | 256  | 512 | 1024 | 2048 | 4096 |     | $2^n$ |
| 3     | 1 | 3  | 9     | 27    | 81    | 243  | 729  | 2187 | 6561 |     |      |      |      |     |       |
| 4     | 1 | 4  | 16    | 64    | 256   | 1024 | 4096 |      |      |     |      |      |      |     |       |
| 5     | 1 | 5  | 25    | 125   | 625   | 3125 |      |      |      |     |      |      |      |     |       |
| 6     | 1 | 6  | 36    | 216   | 1296  | 7776 |      |      |      |     |      |      |      |     |       |
| 7     | 1 | 7  | 49    | 343   | 2401  |      |      |      |      |     |      |      |      |     |       |
| 8     | 1 | 8  | 64    | 512   | 4096  |      |      |      |      |     |      |      |      |     |       |
| 9     | 1 | 9  | 81    | 729   | 6561  |      |      |      |      |     |      |      |      |     |       |
| 10    | 1 | 10 | 100   | 1000  | 10000 |      |      |      |      |     |      |      |      |     |       |
| 11    | 1 | 11 | 121   | 1331  |       |      |      |      |      |     |      |      |      |     |       |
| 12    | 1 | 12 | 144   | 1728  |       |      |      |      |      |     |      |      |      |     |       |
| 13    | 1 | 13 | 169   | 2197  |       |      |      |      |      |     |      |      |      |     |       |
| 14    | 1 | 14 | 196   | 2744  |       |      |      |      |      |     |      |      |      |     |       |
| 15    | 1 | 15 | 225   | 3375  |       |      |      |      |      |     |      |      |      |     |       |
| 16    | 1 | 16 | 256   | 4096  |       |      |      |      |      |     |      |      |      |     |       |
| ...   |   |    |       |       |       |      |      |      |      |     |      |      |      |     |       |
| x     | 1 | x  | $x^2$ | $x^3$ |       |      |      |      |      |     |      |      |      |     |       |

## Recall some of the rules of exponents:

1.  $x^0 = 1, \quad x \neq 0$
2.  $x^1 = x$
3.  $x^m \times x^n = x^{m+n}$
4.  $x^m \div x^n = x^{m-n}, \quad x \neq 0$
5.  $(x^m)^n = x^{m \times n}$
6.  $(xy)^m = x^m y^m$
7.  $\left(\frac{x}{y}\right)^m = \frac{x^m}{y^m}, \quad y \neq 0$
8.  $x^{-m} = \frac{1}{x^m}, \quad x \neq 0$