

Exponents and Radicals

Finding squared values

Keystrokes

Screen

There are two ways to evaluate 9^2 . You can use the square-key:

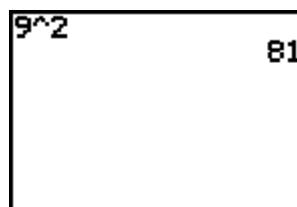
9 \square^{\square} ENTER



9² 81

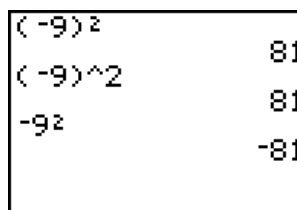
You can also use the caret “^” key:

9 ^ 2 ENTER



9^2 81

When evaluating squares of negative values, use parentheses appropriately:

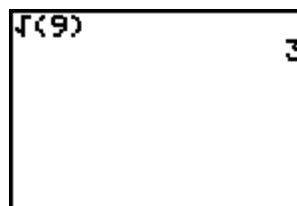


(-9)² 81
(-9)^2 81
-9² -81

Finding square-root values

To find the exact value for $\sqrt{9}$ we would enter the following:

2nd \square^{\square} 9) ENTER

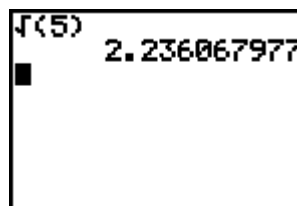


$\sqrt{}$ (9) 3

Note that the left parenthesis is automatic. You need not enter the right parenthesis but it is good notational practice to do so.

To find the decimal value of $\sqrt{5}$ enter:

2nd \square^{\square} 5) ENTER



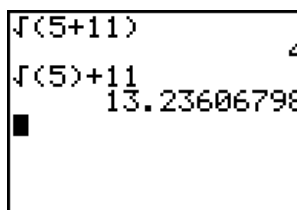
$\sqrt{}$ (5) 2.236067977

Note that the calculator rounded the answer to 9 places after the decimal point (see MODE handout)

Take care to pay attention to order of operations:

2nd \square^{\square} 5 + 11) ENTER

2nd \square^{\square} 5) + 11 ENTER



$\sqrt{}$ (5+11) 4
 $\sqrt{}$ (5)+11 13.23606798

More questions? Contact the **Metropolitan State University Math Center** at 651-793-1460, 651-793-1463 (Fax) or math.center@metrostate.edu.

Persons with a disability who need reasonable accommodations may call Disability Services at 651-793-1540 or 651-772-7687 (TTY).

Finding exponential values

Keystrokes

Screen

You can use the caret key for any integer exponent. To find the values of 3^4 and 2^{-5} , enter the following:

3 \wedge 4 ENTER

2 \wedge (-) 5 ENTER

```
3^4      81
2^-5     .03125
```

You can use the caret key for any rational exponent. To find the values of $9^{3/2}$ and $12^{-1/3}$, enter the following:

9 \wedge (3 \div 2) ENTER

12 \wedge (-) (1 \div 3) ENTER

```
9^(3/2)  27
12^-(1/3) .4367902324
```

You can use the caret key for any real exponents. To find the values of 9^π and $3^{\sqrt{2}}$, enter the following:

9 \wedge 2nd \wedge ENTER

3 \wedge 2nd x^2 2) ENTER

```
9^pi     995.0416449
3^sqrt(2) 4.728804388
```

Finding radical values

You can find a radical value for any index using the x^{th} root function or the cube root function in the MATH menu. To find the values of $\sqrt[5]{32}$ and $\sqrt[3]{2}$, enter the following:

5 MATH 5 32 ENTER

MATH 4 2) ENTER

```
5*sqrt[5]32  2
sqrt[3](2)   1.25992105
```

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