

Fraction Formatting for Exact Answers in One Entry MathPrintView

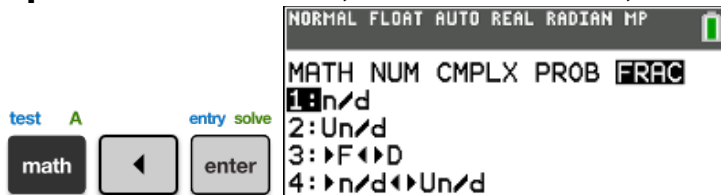
Objectives:

- Review How to Access the Fraction Menu
- Perform calculations using fraction formatting of one entry

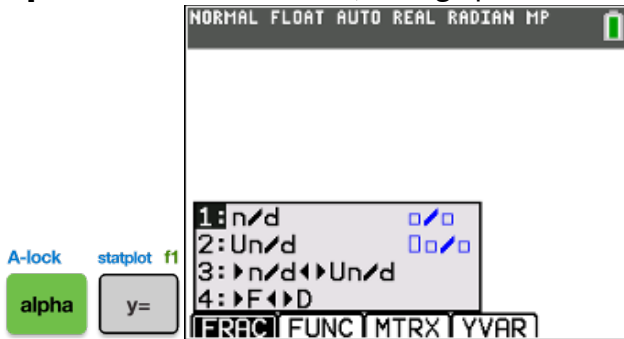
Review How to Access the Fraction Menu

The same Fraction formatting options can be accessed in two different menus.

Option 1: MATH button, move to FRAC menu, which lists fraction options from the top of the screen:



Option 2: Shortcut to F1, listing options from the bottom of the screen (including non-fraction options):



NOTICE: Keystrokes below use Option 2 (2 buttons instead of 3) but you can use Option 1 equally well.

Perform calculations using one entry

Round-off errors can become much bigger if a calculation is done from rounded partial results.

To avoid this, do one entry, using parentheses for the order of operations, or use memory locations or Ans.

IMPORTANT: If the instructions say to round, round only the final answer.

Example 1: Calculate $\frac{41.78 - 3(6.913)^2}{29.188 + 76.342}$. Round to the nearest thousandth.

Remember that the long fraction bar means that the entire numerator and entire denominator must be calculated before the results are divided. The calculator follows the order of operations and will not add

or subtract before dividing unless we use extra parentheses, like this: $\frac{(41.78 - 3(6.913)^2)}{(29.188 + 76.342)}$

Press these buttons:

α $y=$ enter 4 1 $.$ 7 8 $-$ 3 \times 6 $.$ 9 1 3 x^2 \rightarrow 2 9 $.$ 1 8 8 $+$ 7 6 $.$ 3 4 2 enter

See this screen:

Round the final answer to the nearest thousandth to get -.963

Example 2: Calculate $50000\left(1 + \frac{0.073}{365}\right)^{12(365)}$. Round to the nearest hundredth.

Press:

See this screen:

Round to nearest hundredth to get 120,053.25

Example 3: Calculate $\left(\frac{3.6 - 7.1}{4.5 + 9.2}\right)^3$. Round to the nearest thousandth.

NOTE: The parentheses surrounding both the numerator and the denominator do not ensure that the numerator will be subtracted first! To get the correct answer, use additional parenthesis *inside* the given

parentheses, like this: $\left(\left(\frac{3.6 - 7.1}{4.5 + 9.2}\right)\right)^3$

Press:

See this screen:

(Notice that the parentheses re-sized!)

Round to nearest thousandth to get -0.017

Example 4: Calculate $\frac{\sqrt{102-13}}{\sqrt{7}-2}$. Round to the nearest hundredth.

NOTE: The square root in the numerator is different from the square root in the denominator!

Press these buttons:

See this screen:

Round: 14.61

Try It!

Calculate and round to the nearest hundredth.

- 1) $\frac{7.2(43.9)^3 - 97.42}{63.08 - 9.71 + (-23.64)}$
- 2) $930\left(1 - \frac{0.038}{4}\right)^{7/12}$
- 3) $\frac{8^{-32+25} - (-5)^{76-63}}{147 - 236098}$
- 4) $\left(\frac{7.2 - 1.3^3}{6.2 + 1.9}\right)^2$
- 5) $\frac{\sqrt{6} - 3}{\sqrt{124 - 31}}$
- 6) $\sqrt{\frac{21 - 4}{4}} - \frac{\sqrt{17}}{7 - 3}$

Answer Screens

1)
$$\frac{7.2 \times 43.9^3 - 97.42}{63.08 - 9.71 - 23.64}$$
 20486.21314

2)
$$930 \left(1 - \frac{.038}{4} \right)^{7/12}$$
 924.8360038

3)
$$\frac{8^{-32+25} - (-5)^{76-63}}{147-236098}$$
 -5173.545037

4)
$$\left(\frac{7.2 - 1.3^3}{6.2 + 1.9} \right)^2$$
 0.3814968602

5)
$$\frac{\sqrt{6}-3}{\sqrt{124}-31}$$
 -0.0570852544

6)
$$\sqrt{\frac{21-4}{4}} - \frac{\sqrt{17}}{7-3}$$
 1.030776406

Detailed Solutions

1)
$$\frac{7.2 \times 43.9^3 - 97.42}{63.08 - 9.71 - 23.64}$$
 20486.21314

Answer: 20486.21

2)
$$930 \left(1 - \frac{.038}{4} \right)^{7/12}$$
 924.8360038

Answer: 924.84

3)
$$\frac{8^{-32+25} - (-5)^{76-63}}{147-236098}$$
 -5173.545037

Answer: -5173.55

4)
$$\left(\frac{7.2 - 1.3^3}{6.2 + 1.9} \right)^2$$
 0.3814968602

Answer: 0.38

5)

Calculator interface showing the calculation of $\frac{\sqrt{6}-3}{\sqrt{124}-31}$. The display shows the result -0.0570852544 . The answer is -0.06 .

6)

Calculator interface showing the calculation of $\sqrt{\frac{21-4}{4}} - \frac{\sqrt{17}}{7-3}$. The display shows the result 1.030776406 . The answer is 1.03 .