

Keystone Calculator How-To Guide

Graphing Calculator

TI-83 Plus

Basic Operations:

- CLEAR CALCULATOR MEMORY: Hit 2nd+712
- Be sure to put PARENTHESIS around FRACTIONS!!! For instance, when you substitute a number for a variable in problems.

Example: Simplify $3x^2 - 10$ when $x = -\frac{1}{2}$

Calculator Answer: $3(-1/2)^2 - 10$ ENTER
 -9.25 MATH FRAC ▸ ENTER, ENTER
 -37/4

so $-\frac{37}{4}$ or $-9\frac{1}{4}$ is the answer

- Don't forget about the $\sqrt{\quad}$ button for square roots ($2^{\text{nd}} x^2$) and the ^ button to raise a number to an exponent.
- Don't confuse minus sign on the calculator with the NEGATIVE (-) sign. If no other number is in front, use the NEGATIVE (-) sign!!
- Use the MATH button for
 - Fraction/Decimal conversions \rightarrow As FRAC \rightarrow ENTER ENTER
 - Absolute Value symbol \rightarrow NUM \rightarrow abs ()
 - LCM and GCD \rightarrow NUM \rightarrow lcm (#,#) or gcd (#,#)
 - Permutations and Combinations \rightarrow PRB nPr (# total, # choosing) or nCr (# total, #choosing).
- Try using the multiple choice answers IN the problem (do the problem backwards).

Example: Factor $x^2 - 2x - 15$

A.) $(x + 5)(x - 3)$

B.) $(x - 5)(x - 3)$

C.) $(x + 3)(x - 5)$

D.) $(x + 3)(x + 5)$

<- Instead of Factoring, multiply (FOIL) these out and check.

- If the problem is ALL numbers and you CORRECTLY type it into your calculator, you will get an answer in decimal form....However, the test's multiple choice options might not be in decimal form. If your answer is not "there," type all the multiple choice answers in your calculator and see which one MATCHES the decimal answer you got for the problem.
- To Graph Equations of Lines must be in $y=mx+b$ form (get "y" by itself)
 - Go to "Y="
 - Type in the Equation... (Know where the X button is: "X,T,θ,n")
 - Hit "Graph"
 - Hit "TRACE" to locate points on graph
 - OR Hit "TABLE" (2nd, Graph) to bring up table of values for that Equation.
- Never multiply π (pi) out...it will most likely be left in your answer.
- Know the difference between "CLEAR" – Clears your home screen totally.
 - "DEL" – Just deletes what the blinker is on.
 - "Quit" (2nd Mode) – Exits an application (like the graph) and returns you to the home screen
- Use the STAT button and EDIT to enter data... then to CALC menu for 1-Var-Stats
- Use STAT PLOT to make any types of graphs (Scatter Plot, Box-and-Whisker). Remember to hit "GRAPH" and "ZOOM" then "ZOOM STAT" to see those kinds.
- Watch parenthesis () when doing order of operations problems (PEMDAS). For instance, if you would simplify this in your calculator, you'd have to put () around the ENTIRE numerator (top) of the problem: $\frac{2+3-1}{5}$ you'd type: $(2+3-1)/5$
- When dividing a fraction, you MUST type top # in FIRST, then divided by bottom #. (numerator/denominator) Ex: $\frac{10}{5}$ you have to type 10/5

Good Luck!! =)