

Graphing Calculator Basics

Follow along with the Graphing Calculator videos located on the CGCC Math Tutoring Website for complete instructions and calculator keystrokes to help you complete the following questions.

Please be sure you watch the correct video depending on the type of calculator you own (TI-83 vs TI-84).

The TI-84 can be updated. To check which operating system you are currently using access the memory menu (located above the + key) and choose 1:About.

I. Basic Features

1. Convert $\frac{42}{756}$ to a decimal and a simplified fraction.
2. Simplify $\frac{2 \pm \sqrt{3}}{4}$. Round to two decimal places.
3. A student found solutions to the equation $6x^2 - 5x - 4 = 0$ to be $-\frac{1}{2}$ and $\frac{4}{3}$.
Use the store feature of your calculator to check these solutions.
4. A student found solutions to the equation $x^2 - 2x - 10 = 0$ to be $1 \pm \sqrt{11}$.
Use the store feature of your calculator to check these solutions.

II. Graphing and Window Adjustment

5. Graph $y = -2x^2 + 14$ in an appropriate viewing window.
6. Graph $f(t) = 0.5t^3 - 20t^2 + 5t + 100$ in an appropriate viewing window.

III. Calculating Zeros: Finding the x -value when $y = 0$

7. Calculate the x -intercepts (zeros) of the curve $y = 0.5x^3 - 20x^2 + 5x + 100$.

IV. Calculating Intersections and Maximums/Minimums

8. Calculate the intersections of the curves $y = -2x + 5$ and $y = x^2 - 3$.
9. What point is the maximum of the curve $y = -2x^2 - 5x + 3$?

V. Evaluating a Function at a Given Value: Finding a y -value given an x -value

10. $f(x) = -2x^2 - 5x + 3$ Evaluate $f(-14)$.

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VI. Putting It All Together

11. A grapefruit is launched straight up into the air with an initial velocity of 95ft/sec. The grapefruit's height (or position) after t seconds is modeled by the function $h = -16t^2 + 95t$.
- Graph the function in a standard viewing window and adjust your window so the entire curve can be seen.
 - When will the grapefruit reach its maximum height?
 - What is the maximum height?
 - What is the height after 2.45 seconds?
 - When will the grapefruit be at a height of 100 feet?
 - When will the grapefruit go splat? That is, when will the height be 0 feet?