

Keep this beside the U3-L5 worksheet. Menu NAMES are what matter — numbers can shift with the OS version.

KEYS YOU'LL USE

ctrl menu tab enter esc doc on ← the round key is the touchpad; press its center to click

1. START A GRAPHS PAGE (do this first, every time)

Press the HOME key (the little house).

Choose New Document → Add Graphs.

You'll see a blank grid with an entry line at the bottom reading $f1(x)=$

If the entry line is hidden, press ctrl + G to bring it back.

Shortcut: the Scratchpad (the graph-paper key) also graphs, but a Document saves your work.

2. TYPE A FUNCTION

With the cursor on $f1(x)=$, type the rule, then press enter.

Powers: press the ^ key. x^2 is x^2 enter

Negatives: use the (-) key (bottom row), NOT the subtraction key.

Fractions/decimals: $0.5x$ is fine; type it just as it reads.

The graph draws immediately. Press tab to get a fresh line for $f2(x)$.

Worksheet #1, #2, #6 need only f1. Worksheet #3, #8, #9 need f1 AND f2.

3. FIX THE VIEW (when the graph looks wrong or empty)

Press menu → Window/Zoom → Zoom-Standard. This resets to $-10...10$ both ways.

Still can't see the curve? menu → Window/Zoom → Zoom-Out, or Zoom-Fit.

To set exact edges: menu → Window/Zoom → Window Settings, then type XMin, XMax, YMin, YMax.

A parabola like $f1(x) = x^2 + 2x - 8$ (#7) may need Zoom-Out to show its bottom.

4. READ A TABLE (worksheet #1, #2, #6)

Press ctrl + T. The screen splits: graph on one side, table on the other.

Scroll with the touchpad arrows to find the x you want; read the $f1(x)$ column.

To go backward (find x when y is known, as in #6), scroll until the $f1(x)$

column shows your target value, then read the x beside it.

Press ctrl + T again to hide the table.

#6: scroll until $f1(x)$ reads 8 — the x next to it is your answer.

THE ANALYZE GRAPH TOOLS — these answer most of the worksheet

All three live under: menu → Analyze Graph

5. ZEROS — where the graph crosses the x-axis (worksheet #4, #10)

menu → Analyze Graph → Zero

The calculator asks for a lower bound: move the cursor to the LEFT of the crossing point and click (press the center of the touchpad).

Then an upper bound: move to the RIGHT of that same crossing and click.

The zero appears on the graph. Repeat the whole process for a second zero.

A parabola usually has TWO zeros — you must run the tool twice (#4 and #10).

6. MAXIMUM or MINIMUM — the vertex (worksheet #5, #7, #10)

menu → Analyze Graph → Maximum (for a hill — opens down)

menu → Analyze Graph → Minimum (for a valley — opens up)

Bound it the same way: click once LEFT of the turn, once RIGHT of the turn.

The point appears as (x, y) — that ordered pair IS the vertex.

#5 opens down → Maximum. #7 and #10 open up → Minimum.

7. INTERSECTION — where two graphs cross (worksheet #3, #8, #9)

Make sure BOTH f1 and f2 are entered and visible.

menu → Analyze Graph → Intersection

Click once to the LEFT of the crossing, once to the RIGHT.

The point (x, y) is the solution of $f1(x) = f2(x)$.

If the graphs cross twice (#9), run the tool again on the second crossing.

#9 is a line and a parabola — expect TWO intersection points.

WHICH TOOL FOR WHICH PROBLEM

PROBLEM	TOOL	NOTE
#1, #2	Table (ctrl + T)	read $f1(x)$ at a given x
#3, #8	Analyze Graph → Intersection	one crossing
#4	Analyze Graph → Zero	run it twice
#5	Analyze Graph → Maximum	opens down
#6	Table (ctrl + T)	read backward: find y , take x
#7	Analyze Graph → Minimum	opens up
#9 ★	Intersection, twice	line meets parabola
#10 ★	Zero (twice) + Minimum	vertex x is midway between zeros

IF SOMETHING GOES WRONG

- Blank screen → menu → Window/Zoom → Zoom-Standard.
- "Invalid" or a weird graph → check you used (-) for negatives, not the minus key.
- Tool won't finish → your two clicks must sit on OPPOSITE sides of the point.
- Lost the entry line → ctrl + G . Stuck in a tool → press esc .