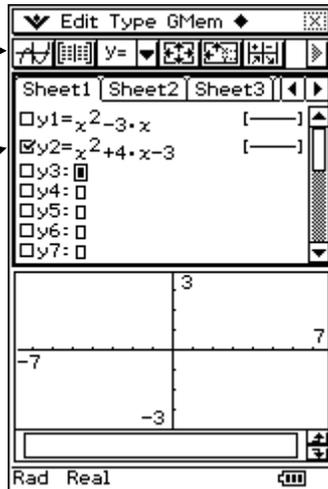


Quick reference guide for the ClassPad's Graph Application \bar{W}

To begin, tap \bar{m} and then \bar{W}

Tap $\$$ to **display graph**.

Only checked equations will graph.
You can tap the box to check or uncheck.

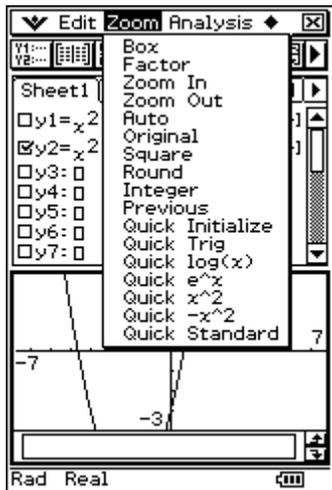


Other useful things:

- # - opens a table of values for checked graph/s
- 8 - lets you change table start and end values
- Type** menu – lets you change the kind of curve you are graphing

After graphing, you have many zoom options.
The **Zoom** menu, the **+ or - key** and the **cursor pad**.

The **Analysis/G-Solve** sub-menu is great!!!



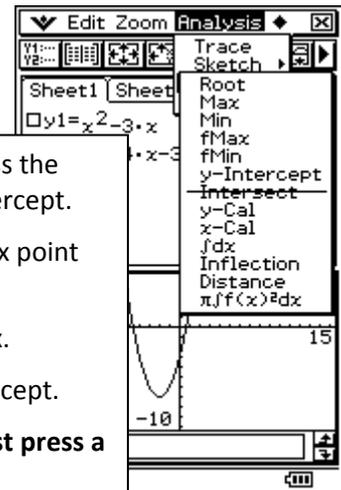
Root – use to find x-intercept. Press the cursor pad to jump to the next intercept.

Max or Min – use to find the vertex point and axis of symmetry.

y-Cal – use to find y-value for any x.

y-Intercept – use to find the y-intercept.

Note: When in the **Trace** mode, **just press a number** and a dialog will open 😊



Use the **cursor pad arrows** to quickly adjust/pan the graph window up, down, left or right! Enjoy exploring.

Before beginning the actual worksheet, please complete this practice activity to get used to the Graph application.

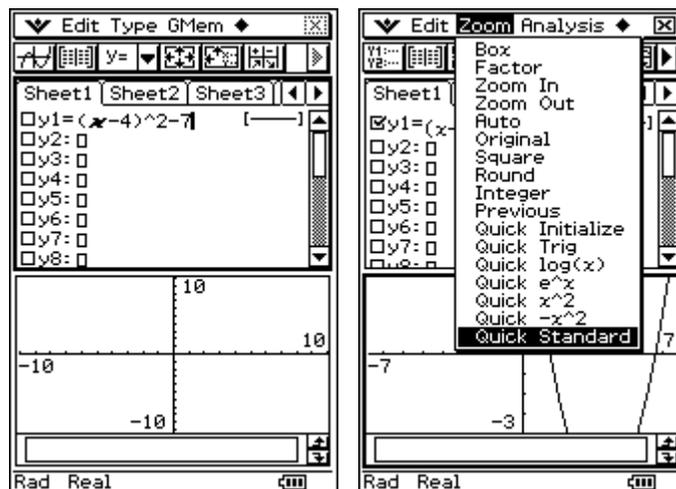
Practice Activity

Graph $y = (x - 4)^2 - 7$ and then find (1) the vertex point (turning point), (2) axis of symmetry, (3) y-intercept and (4) x-intercept/s.

1. To graph $y = (x - 4)^2 - 7$

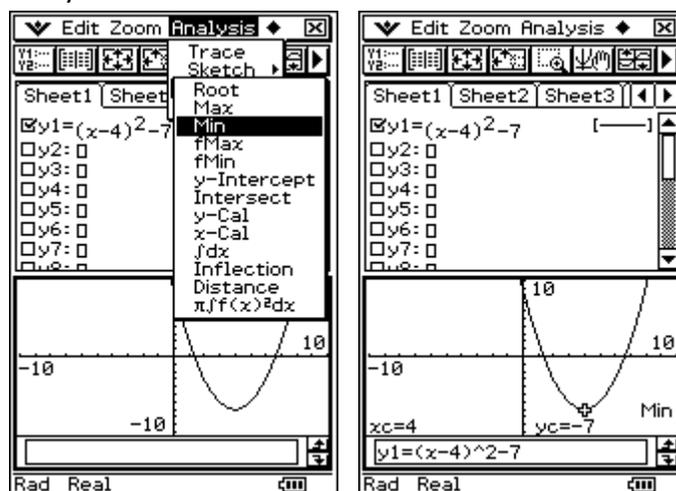
- Tap \mathbb{M} and then \mathbb{W}
- Select Edit/Clear All if needed
- Tap in the box following y1 and input $(x-4)^2-7$
- Press **EXE** (This sets the graph)
- Tap the $\$$ button to graph
- While the graph window has focus, select **Zoom/Quick Standard**

*At this point, we need to see the vertex point (turning point in the window. You can zoom, press the – key, use the cursor pad, ..., many options.



2. To find the Vertex Point and Axis of Symmetry

- Tap in the graph window to give it focus
- Select **Analysis/G-Solve** and then **Min** (our graph has a minimum pt)
- The vertex pt is (4,-7)
- The Axis of Symmetry is the **vertical line** passing through the vertex point, namely **x=4**



3. To find the y-Intercept

- Select **Analysis/G-Solve** and then **y-Intercept**.
- You should get (0,9)!

4. To find x-Intercept/s

- Select **Analysis/G-Solve** and then **Root**. The first intercept is approximately (1.35, 0).
- Tap the **right arrow on the cursor pad** to jump to the next intercept. Tap the left arrow to go back!

For each of the following, graph the equation using the ClassPad, find the vertex point, axis of symmetry, x-intercept/s and y-intercept and then sketch the graph. Be sure to label the vertex point and draw the axis of symmetry for each graph.

1. Graph $y = (x - 2)^2 - 3$

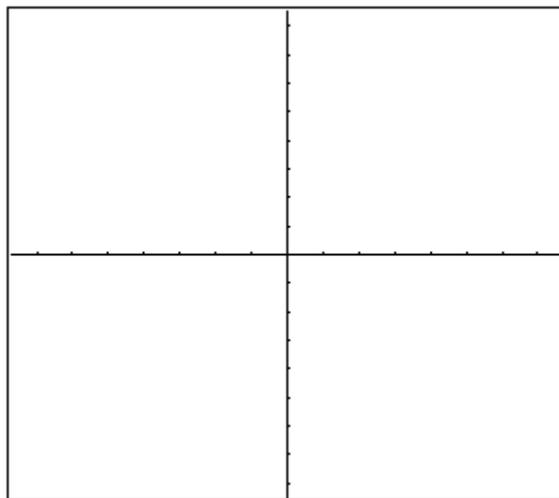
Complete:

Vertex Point: _____

Axis of Symmetry: _____

x-Intercept/s: _____

y-Intercept: _____



2. Graph $y = (x + 2)^2 - 3$ [Hint: Drag and drop y1 to y2 and edit the equation. Uncheck y1.]

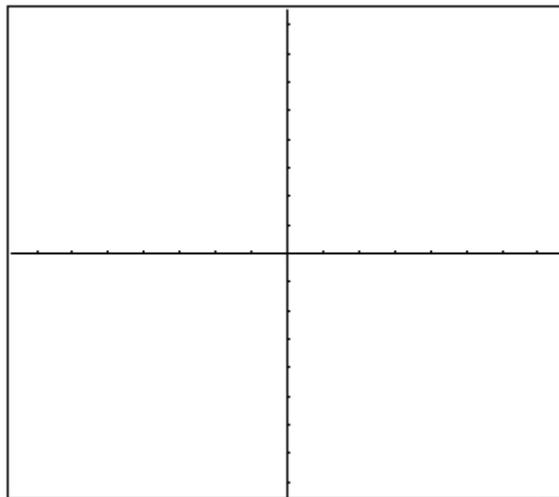
Complete:

Vertex Point: _____

Axis of Symmetry: _____

x-Intercept/s: _____

y-Intercept: _____



3. Graph $y = -2(x - 1)^2 + 4$

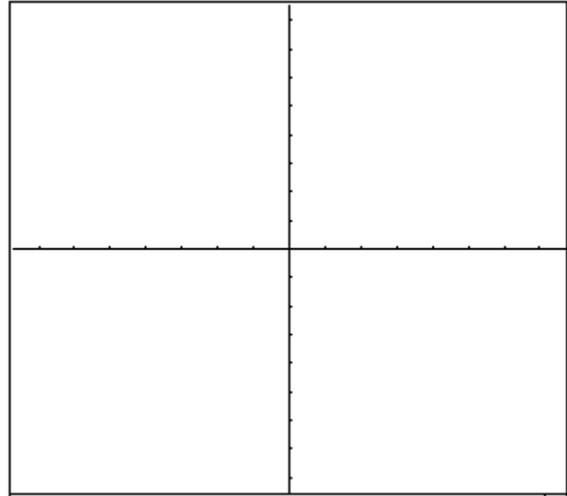
Complete:

Vertex Point: _____

Axis of Symmetry: _____

x-Intercept/s: _____

y-Intercept: _____



4. Graph $g(x) = -.5(x + 7)^2 - 1$

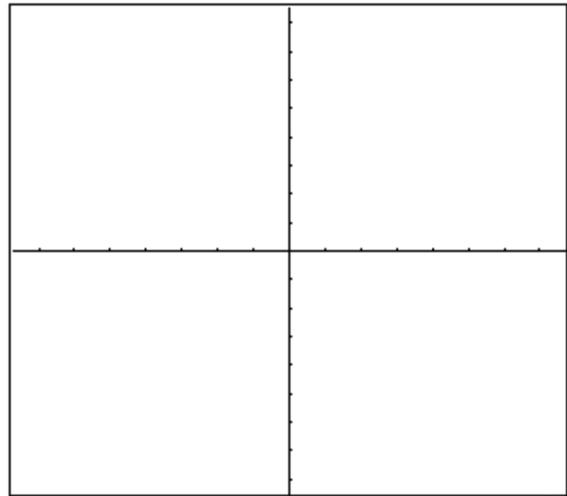
Complete:

Vertex Point: _____

Axis of Symmetry: _____

x-Intercept/s: _____

y-Intercept: _____



5. Graph $f(x) = 3(x - 4)^2 + 1$

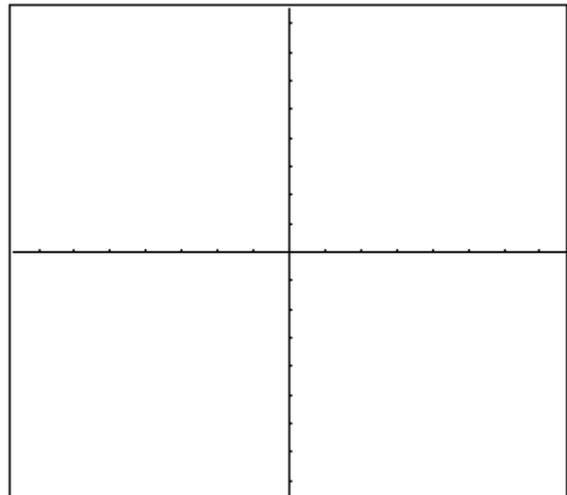
Complete:

Vertex Point: _____

Axis of Symmetry: _____

x-Intercept/s: _____

y-Intercept: _____



6. In general, what is the vertex point and axis of symmetry of $f(x) = a(x-h)^2 + k$?

7. A ball is tossed upward. It is known that the ball follows a path over time given by:

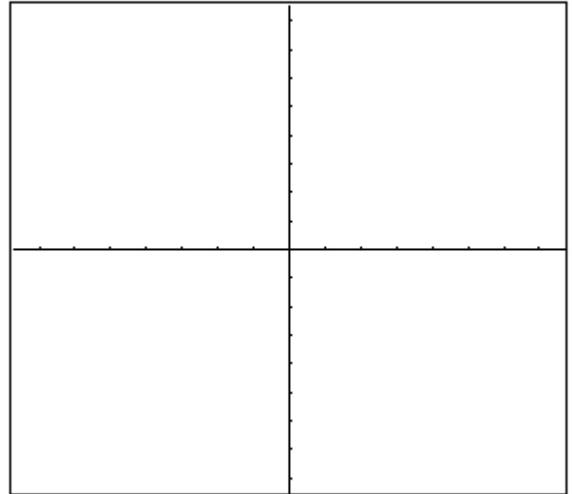
$$f(t) = -3(t-2)^2 + 15$$

Given the $f(t)$ is the height of the ball at time t , and t is greater than or equal to 0 complete:

How high does the ball travel? _____

How high was the ball initially? _____

When does the ball hit the ground? _____



[Note: You will need to use x instead of t to graph $f(t)$ on the ClassPad.]

8. Complete the following table:

Quadratic equation	Fill in the blank/s	Complete the square
$f(x) = x^2 - 6x + 1$	$f(x) = (x^2 - 6x + \underline{\quad}) - \underline{\quad} + 1$	
$g(x) = 2x^2 - 12x - 5$	$g(x) = 2(x^2 - 6x + 9) - \underline{\quad} - 5$	
$h(x) = -3x^2 + 6x + 5$	$h(x) = -3(x^2 - 2x + \underline{\quad}) + 3 + 5$	