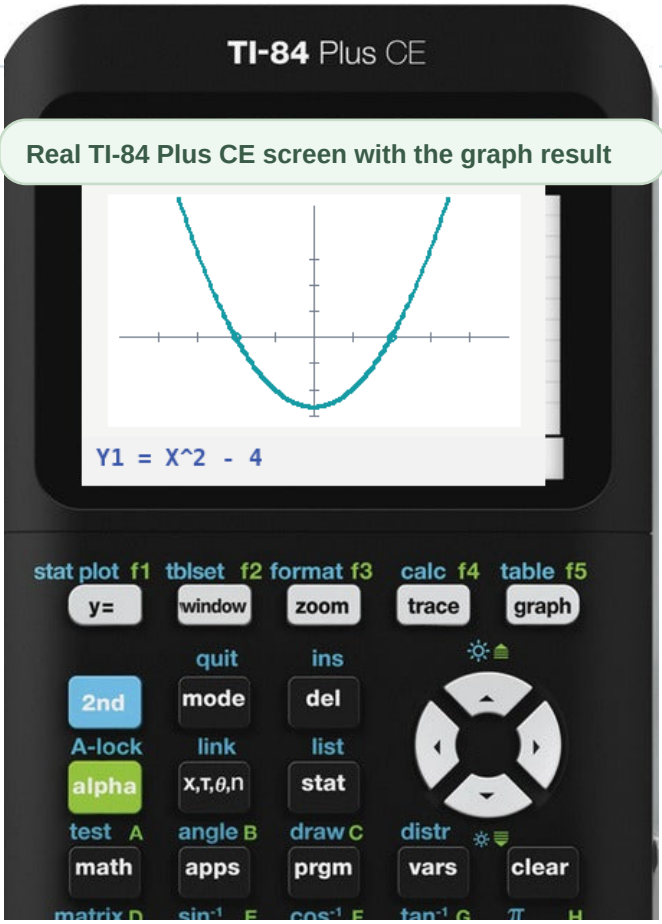
2. Graph a function

School-poster style • Graph y = x² – 4 using a TI-84 Plus CE

C4C POSTER



Real TI-84 Plus CE screen with the graph result

What students should notice

- The curve opens upward.
- The lowest point is below the x-axis.
- The graph crosses the x-axis near –2 and 2.
- Changing "– 4" would move the graph up or down.

Teacher talk

Ask before pressing GRAPH: "Will the graph open up or down? Where do you think it will cross the x-axis?"

Expected result

Students should say: "It is an upward-opening parabola, and it crosses the x-axis near x = –2 and x = 2."

Key sequence

y= → X,T,θ,n → x² → _ → 4 → graph

1. Open Y=

y=

Press Y= to open the function editor.

2. Enter x² – 4

X,T,θ,n → x² → _ → 4

Type x² – 4 in Y■ using the TI-84 keys.

3. Press GRAPH

graph

Press GRAPH and let the parabola appear.

4. Discuss the graph

Explain the shape and the x-intercepts near –2 and 2.

Teacher support and student follow-up

Cleaner reminder cards, classroom routine, and exit task

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Key-by-key reminder

Y=
Open the function editor.

X,T,θ,n
Use this key for x.

x²
Square the variable.

–
Move the graph down by 4.

4
Enter the constant term.

GRAPH
Draw the function.

5-minute classroom routine

1. Predict the shape before using the calculator.
2. Enter the function together.
3. Press GRAPH and pause for observation.
4. Ask students what they notice.
5. Connect the graph to the equation.

Common mistakes to watch

- Students type a normal letter instead of X,T,θ,n.
- The minus sign before 4 is forgotten.
- Students rush past the graph instead of describing it.

Student challenge / exit ticket

Now ask students to graph one more function and compare it with $y = x^2 – 4$:

$y = x^2 – 1$	$y = x^2 + 2$	$y = (x – 1)^2 – 4$

Questions: Does the graph still open upward? How has it moved? Where is the lowest point?