## 5.10 Second derivative

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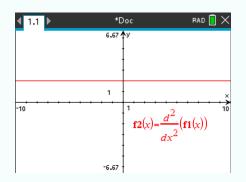
## 5.10.1 Graph the second derivative of a function

Suppose you want to graph the second derivative of the following function:

$$f(x) = x^2 + 3x + 1$$

1. Create a new document and select Add Graphs.

- 2. Write f1(x) as the function you want to study.
- 3. Write  $f_2(x) = \frac{d^2 f_1(x)}{dx}$ . To do this, press and select  $\frac{d^2}{dx}$ .



**f2** is then the graph of f''(x). You can thus know when f''(x) < 0 or f''(x) > 0 by looking at its graph.

Tip: deactivate the graphs you don't want for better readability by checking or unchecking  $\checkmark$  besides the function definiton.