

## The Second Derivative: More Practice

- The plot in Fig. 1 shows the derivative of a function. Which of the following pairs are larger?
  - $f'(1)$  or  $f'(2)$ ?
  - $f''(1)$  or  $f''(2)$ ?
  - $f(1)$  or  $f(2)$ ?
  - $f'(2)$  or  $f'(4)$ ?
  - $f''(2)$  or  $f''(4)$ ?

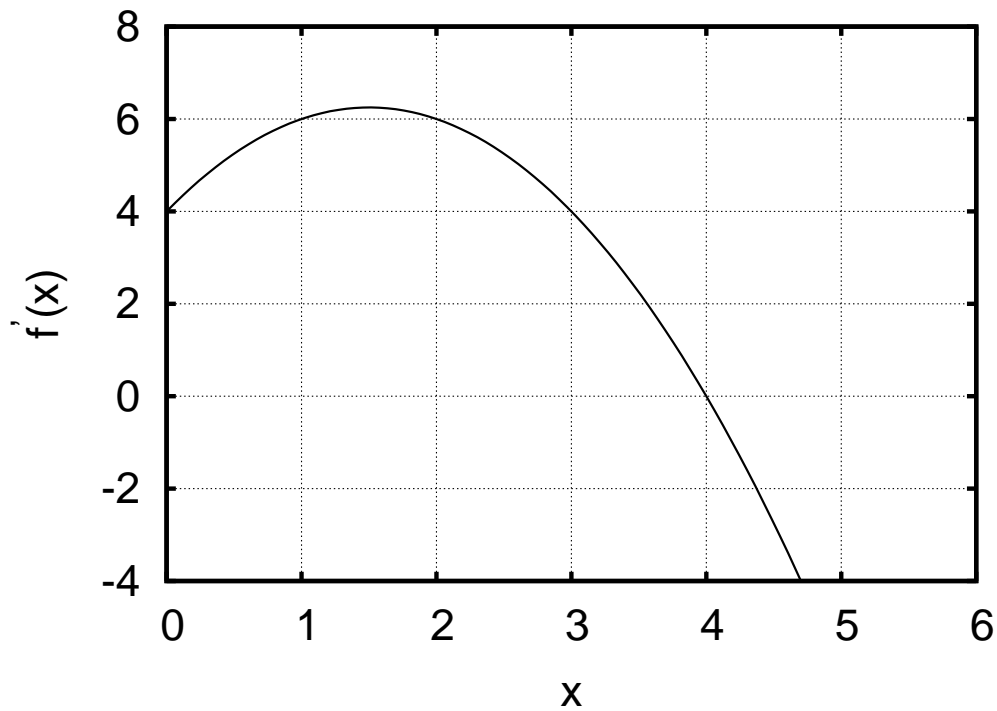


Figure 1: A plot of  $f'(x)$ .

- There is a problem on the other side of this page.

3. A function (not its derivative) is plotted in Fig. 2.

- (a) For what values of  $x$  is  $f(x)$  positive?
- (b) For what values of  $x$  is  $f(x)$  negative?
- (c) For what values of  $x$  is  $f'(x)$  positive?
- (d) For what values of  $x$  is  $f'(x)$  negative?
- (e) For what values of  $x$  is  $f''(x)$  positive?
- (f) For what values of  $x$  is  $f''(x)$  negative?

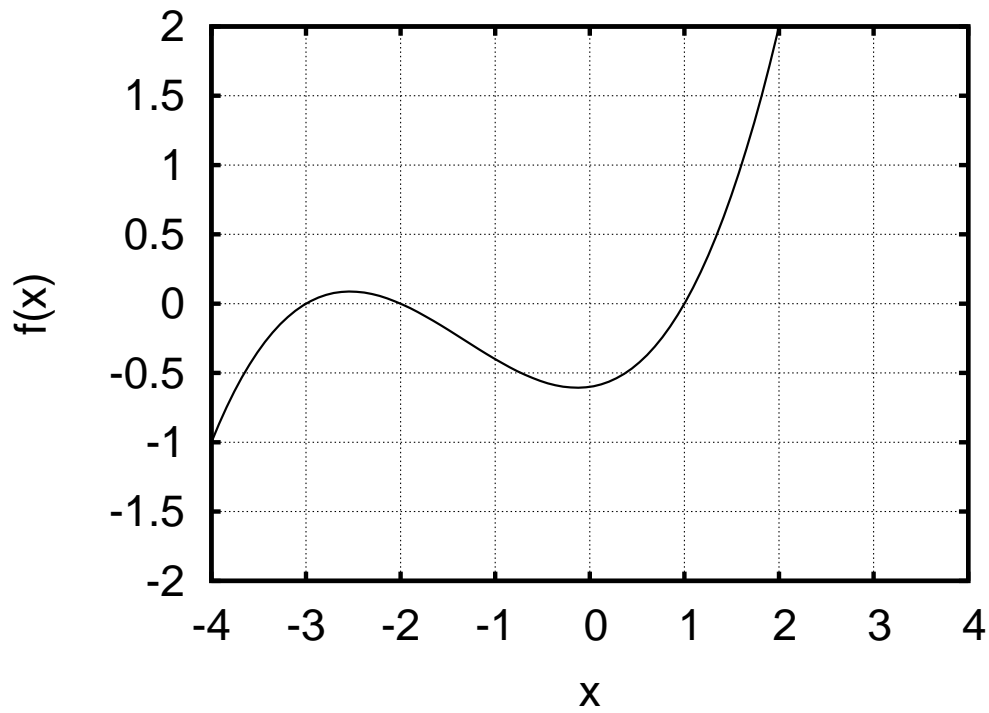


Figure 2: A plot of a function  $f(x)$ .