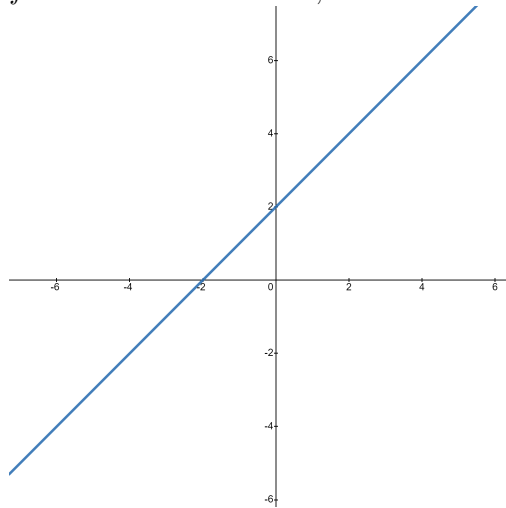
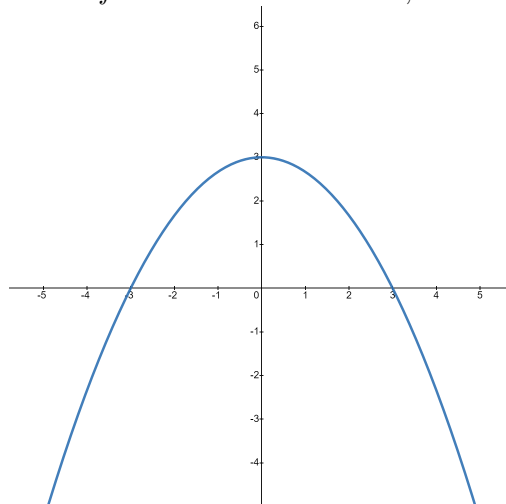


## Graphical Interpretation of Derivatives

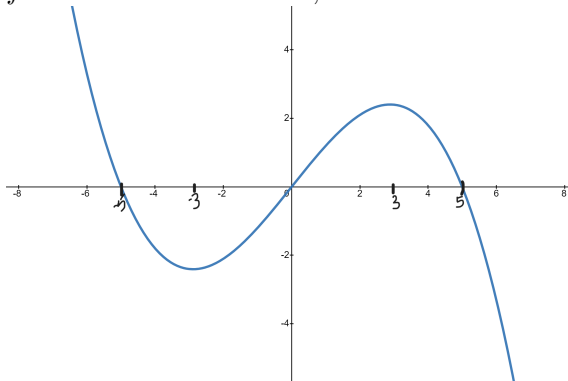
Example 1: The graph of  $f'(x)$  is given below. Find the critical numbers for  $f(x)$ , the intervals on which  $f$  is increasing, decreasing, concave up, concave down, the  $x$ -values at which  $f$  has relative extrema, and the  $x$ -values at which  $f$  has inflection points.



Example 2: The graph of  $f'(x)$  is given below. Find the critical numbers for  $f(x)$ , the intervals on which  $f$  is increasing, decreasing, concave up, concave down, the  $x$ -values at which  $f$  has relative extrema, and the  $x$ -values at which  $f$  has inflection points.



Example 3: The graph of  $f'(x)$  is given below. Find the critical numbers for  $f(x)$ , the intervals on which  $f$  is increasing, decreasing, concave up, concave down, the  $x$ -values at which  $f$  has relative extrema, and the  $x$ -values at which  $f$  has inflection points.



## DIY

The graph of  $f'(x)$  is given below. Find the critical numbers for  $f(x)$ , the intervals on which  $f$  is increasing, decreasing, concave up, concave down, the  $x$ -values at which  $f$  has relative extrema, and the  $x$ -values at which  $f$  has inflection points.

