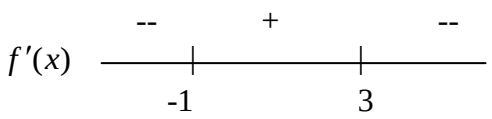
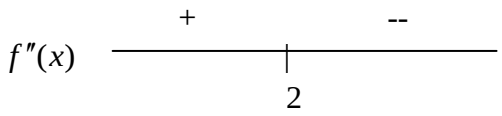
Using Sign Charts

1. In each case, sketch a graph of a continuous function with the given properties.

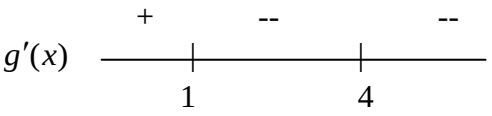
A. $f'(-1)=0$ and $f'(3)=0$

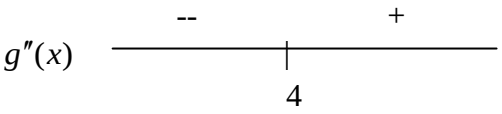
f''(2)=0





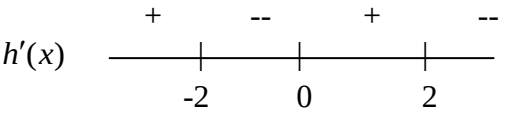
B. $g'(1)=0$ and $g'(4)$ is undefined

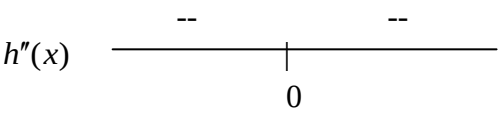




C. $h'(-2)=0$ and $h'(2)=0$

$h'(0)$ is undefined





2. Use Calculus to determine i) critical points, ii) local extrema, iii) inflection points, and iv) intervals where $f(x)$ is concave up or down. Include an accurate graph that illustrates these features. Do this on a separate sheet of paper.

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

B. $f(x)=\dfrac{8x-16}{x^2}$

C. $f(x)=2x+3x^{2/3}$