Function Analysis

We can use derivatives to determine intervals where a function is increasing or decreasing, and also where a function is concave up or concave down.

1. Consider the function $y=\frac{1}{2}x^{4}+x^{3}-6x^{2}-18x+36$.

a) Find the interval(s) where this function is increasing. (It is increasing when *y*’>0)

b) When is *y* concave down? (It is concave down when *y*”<0)

Confirm your findings with a graph.

2. Find where $y=\sqrt[3]{x}(x-4)$ is decreasing.

Practice: Booklet (Critical Points and Graphs) and page 204 #11abcd, 13abcd, 15abcd, 28abcd

Read section 4.3 page 194-199 and page 201-203.