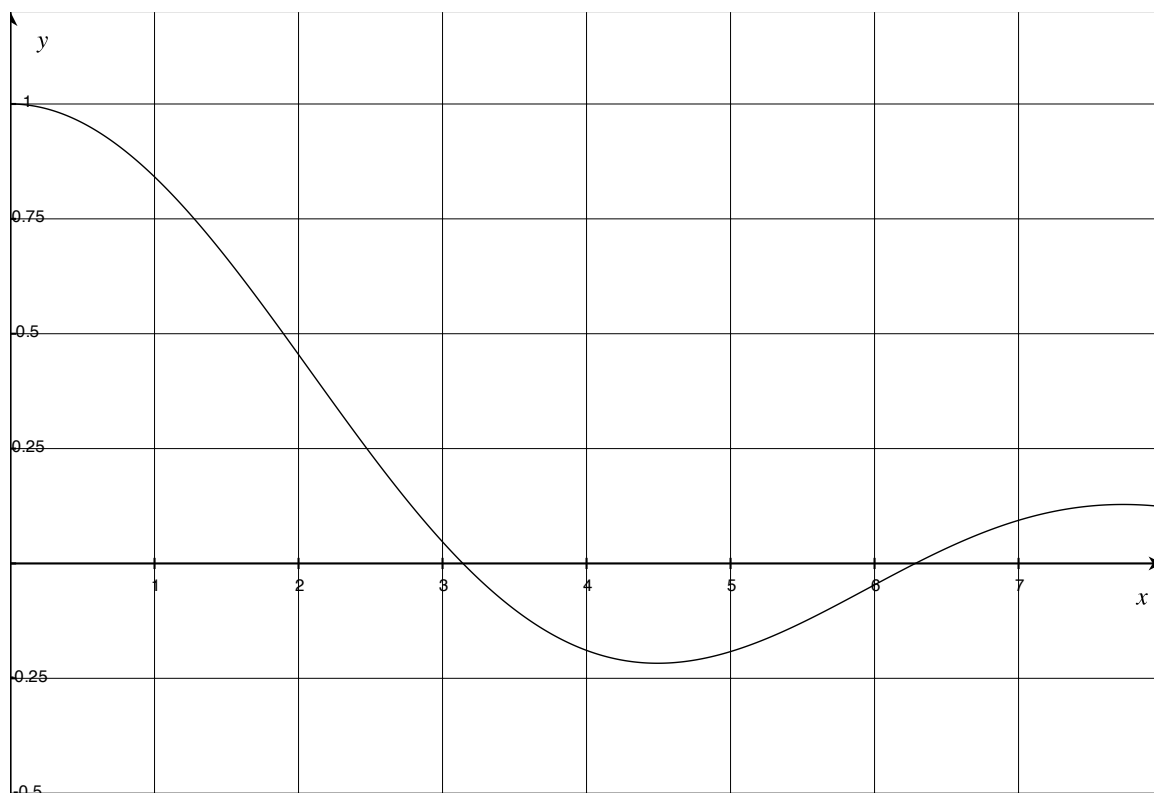


Second Derivative Worksheet

Name _____

February 15, 2007

1. Below, the graph of $y = f'(x)$ is given.



- (a) On approximately what interval(s) is f increasing? decreasing? Explain.
- (b) On approximately what interval(s) is f' increasing? decreasing? Explain.
- (c) On approximately what interval(s) is f concave up? concave down? Explain.
- (d) On approximately what interval(s) is f' concave up? concave down? Explain.

2. For each of the following situations, sketch the graph of a function $f(t)$ that has the indicated properties.

- (a) $f(t)$ is increasing
 $f(t) > 0$
 $f'(t)$ is increasing

- (d) $f''(t) < 0$
 $f'(t) > 0$
 $f(t) < 0$

- (b) $f(t) > 0$
 $f(t)$ is decreasing
 $f''(t) > 0$

- (e) $f(t) < 0$
 $f'(t)$ is decreasing
 $f'(t) < 0$

- (c) $f(t)$ is increasing
 $f''(t) > 0$
 $f(t) < 0$

- (f) $f'(t)$ is increasing
 $f(t) > 0$
 $f'(t) < 0$