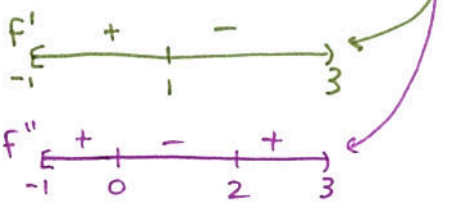
DATE: _____

x	-1	$-1<x<0$	0	$0<x<1$	1	$1<x<2$	2	$2<x<3$
$f(x)$	0	Positive	2	Positive	3	Negative	0	Negative
$f'(x)$	2	Positive	1	Positive	0	Negative	-1	Negative
$f''(x)$	1	Positive	0	Negative	-1	Negative	0	Positive

$f(x)$ is defined on [-1,3) in the chart above. Use the information to answer the following:

Where is f increasing? Why?

f is inc on (-1,1) b/c f' > 0 on (-1,1)



Where is f decreasing? Why?

f dec on (1,3) b/c f' < 0 on (1,3)

Where does f have a relative maximum? Why?

f has rel. max @ x = 1 b/c f' changes from pos to neg @ x=1

Where does f have a relative minimum? Why?

f does not have a rel. min b/c f' does not change from ~~pos~~ neg to pos on [-1,3)

Where is f concave up? Why?

f is concave up on (-1,0) ∪ (2,3) b/c f'' > 0 on those intervals

Where is f concave down? Why?

f is concave down on (0,2) b/c f'' < 0 on that interval

Where does f have an inflection point? Why?

f has inf pt. @ x = 0 and x = 2 b/c f'' changes signs @ x=0 and x = 2.