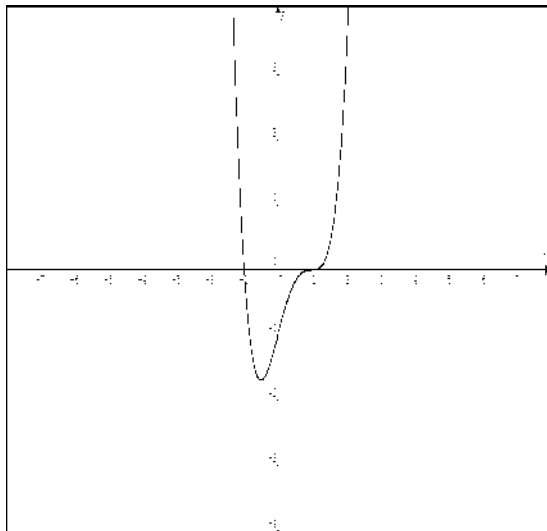


# Critical Points First Derivative Practice.doc

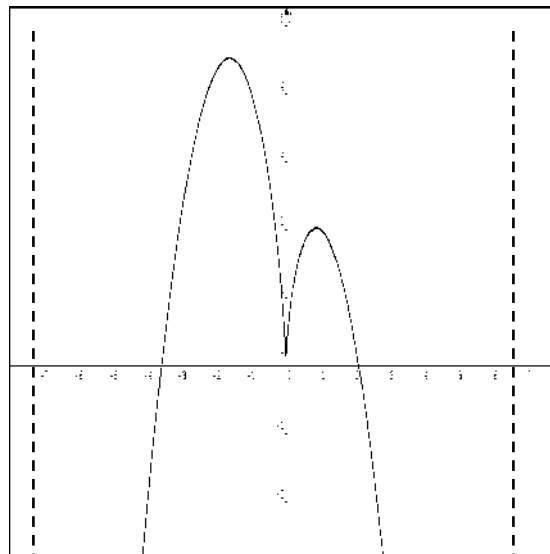
Name \_\_\_\_\_

For the following functions, indicate all **critical** points within the specified domain. Indicate if they are **relative** or **absolute maximums** or **minimums**. (Assume domain is for all  $x$  values unless domain is indicated by dashed lines.)

1)



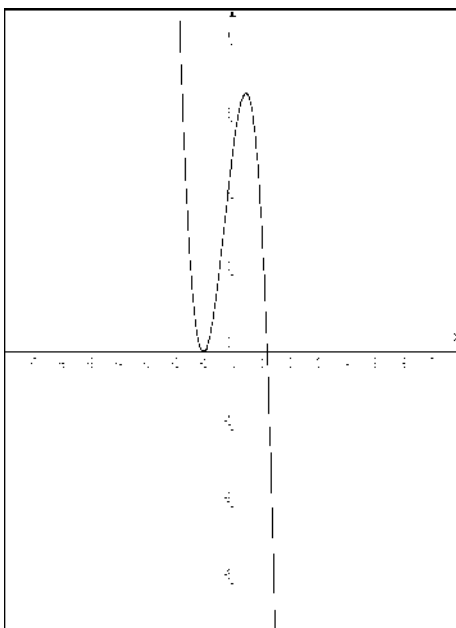
2)



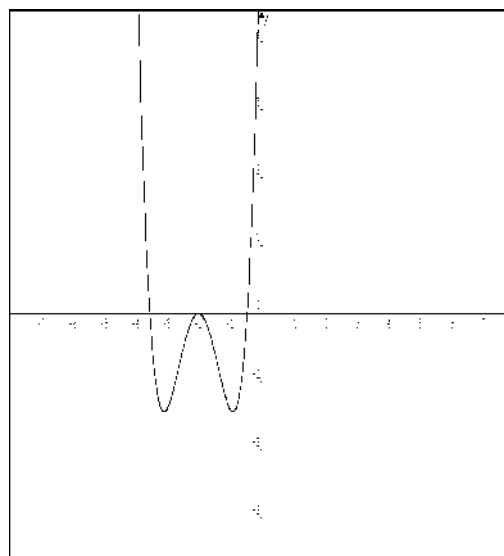
**Below are the graphs of  $f'(x)$  NOT  $f(x)$ :**

Indicate on the graphs the  $x$ -values of critical points for the original function, label as **relative** maximum or minimum points.

3)



4)



Use the first derivative to find the critical points and determine if each is a **relative** maximum or minimum.

1)  $y = -4x^3 - 9x^2 + 12x$

2)  $y = x^4 - 2x^3$

3)  $y = (x^3 - 1)^3$