

Name \_\_\_\_\_

Lab Section: \_\_\_\_\_

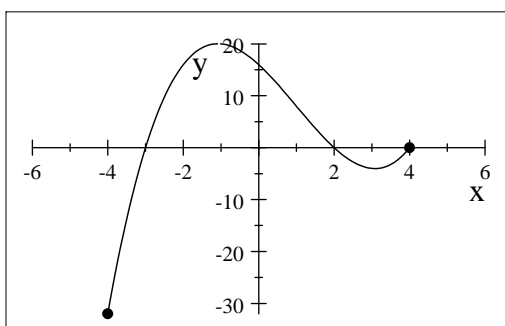
**MATC 1200, Calculus for Business and Social Sciences**

**Lab 8 Introduction to Optimization: Week of May 18, 2009**

**Pre-Lab Question**

1. The **Extreme Value Theorem (EVT)** states that a continuous function  $f$  defined over a closed interval  $[a, b]$  must have an absolute maximum and an absolute minimum value at points in  $[a, b]$ . Here are a series of graphs of functions on certain intervals. Determine if each function satisfies the conditions of the **EVT** by determining whether the graph shows a continuous function over a closed interval  $[a, b]$ . In addition, for each graph find the absolute maximum and the absolute minimum. If there is no absolute maximum (or minimum), just say "none".

a.



$f$  defined on  $[-4, 4]$

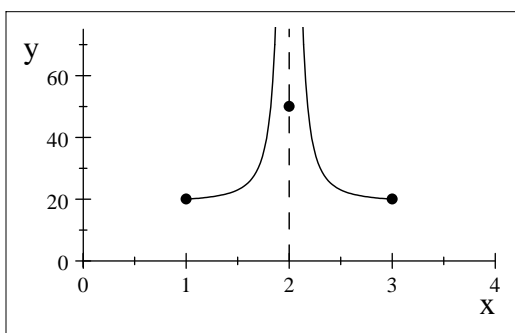
Continuous? Y or N

Interval Closed? Y or N

Absolute Maximum:

Absolute Minimum:

b.



$g$  defined on  $[1, 3]$

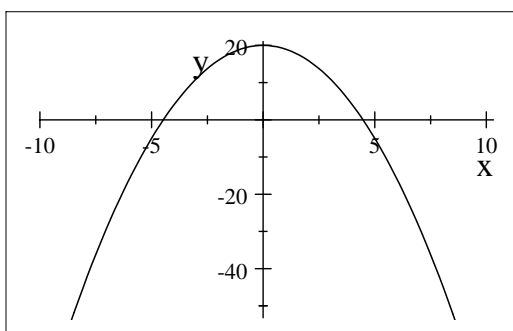
Continuous? Y or N

Interval Closed? Y or N

Absolute Maximum:

Absolute Minimum:

c.



$h$  defined on  $(-\infty, \infty)$

Continuous? Y or N

Interval Closed? Y or N

Absolute Maximum:

Absolute Minimum: