

DATE: \_\_\_\_\_

#### 4.1 Extreme Values of Functions

1. If a point is a relative (local) minimum, is the point a critical number? Why?
2. If a point is a relative (local) maximum, is the point a critical number? Why?
3. If a point is an absolute (global) maximum on an interval, is the point a critical number? Why?
4. If a point is an absolute (global) minimum on an interval, is the point a critical number? Why?
5. If a point is not a maximum or minimum on an interval, is the point a critical number? Why?
6. Graph a function on the interval  $[-2,5]$  having the given characteristics:
  - Relative minimum at  $x = 1$
  - Critical # at  $x = 0$ , but no extrema
  - Absolute maximum at  $x = 2$
  - Absolute minimum at  $x = 5$