Math 124 Name _____

#24 Terms and Such 4.1 & 4.2

Suppose $g(x)$ is a continuous function whose domain is all real numbers. Answer TRUE or FALSE. If FALSE give a reason or provide a counterexample.

1. Every critical point of $g(x)$ corresponds to either a local maximum or local minimum.

2. Every local maximum or local minimum of $g(x)$ must be a critical point.

3. All global maximums (and minimums) of $g(x)$ must also be local maximums (and minimums).

4. A local maximum or minimum cannot occur if $g'(x)$ is undefined there.

5. If we restrict the domain of $g(x)$ so that we have a closed interval [a,b], then $g(x)$ must have both a global maximum and a global minimum.

6. Inflection points of $g(x)$ can only occur where $g''(x) = 0$.

7. An inflection point of $g(x)$ can never be a local maximum or local minimum.