

## MATH 2301 GW12 The Extreme Value Theorem

The Extreme Value Theorem says that if a function $f$ is continuous on a closed interval $[a, b]$, then $f$ will have both an absolute maximum and an absolute minimum on that interval. In this drill, you investigate what can happen when $f$ is not continuous or the interval is not closed.

The graph of a function $f$ is shown at right. Fill in the table below.


| Interval | Relative Maxima <br> in that interval | Relative Minima <br> in that interval | Absolute Max <br> in that interval | Absolute Min <br> in that interval |
| :---: | :---: | :---: | :---: | :---: |
| $[6,15]$ |  |  |  |  |
| $(6,15)$ |  |  |  |  |
| $(8,15)$ |  |  |  |  |
| $[2,12]$ |  |  |  |  |
| $(2,12)$ |  |  |  |  |
| $(4, \infty)$ |  |  |  |  |

