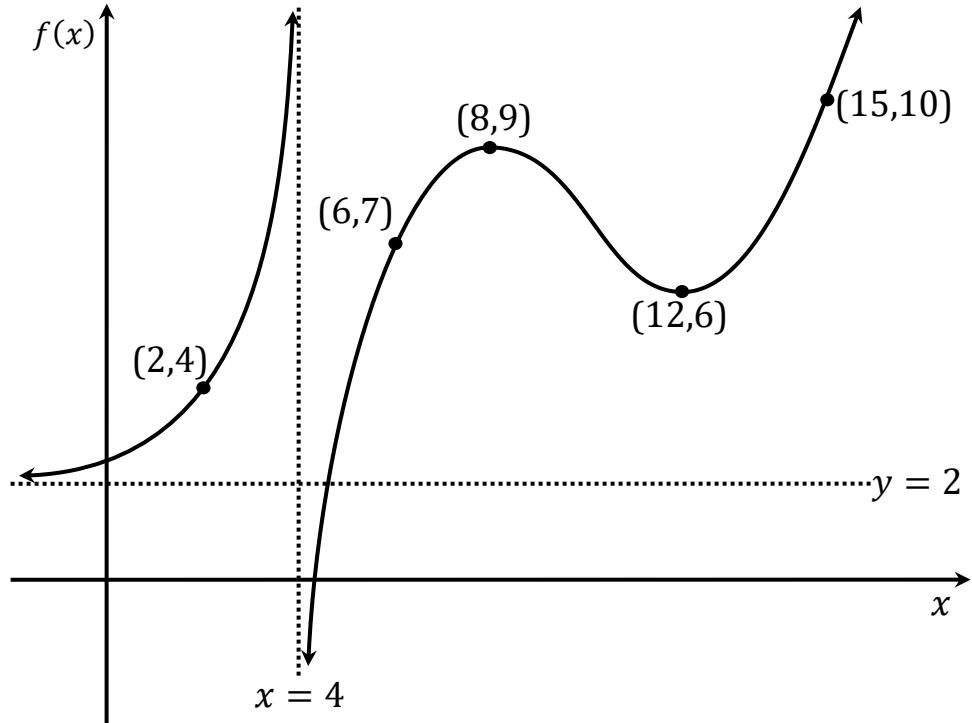# Class Drill: Identifying Absolute Extrema and Local Extrema on a Graph

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.

$f(x)$

(8,9)

(15,10)

(6,7)

(12,6)

(2,4)

$y = 2$

x

$x = 4$

Interval	Local Maxima in that interval	Local Minima in that interval	Absolute Max in that interval	Absolute Min in that interval
[6,15]				
(6,15)				
(8,15)				
[2,12]				
(2,12)				
(4,∞)				