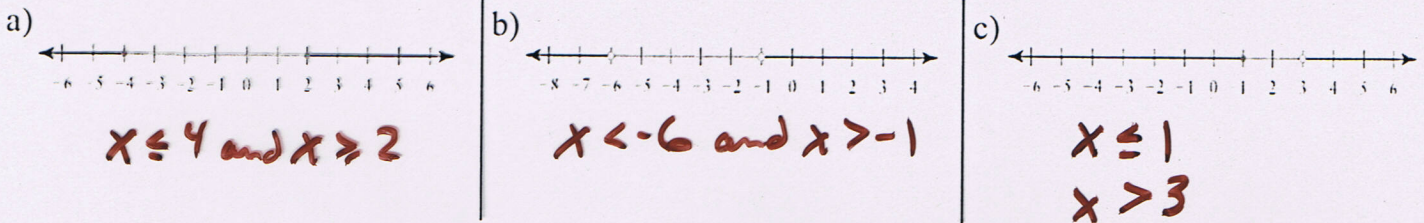


## 2.5 Solving Inequalities Using Technology

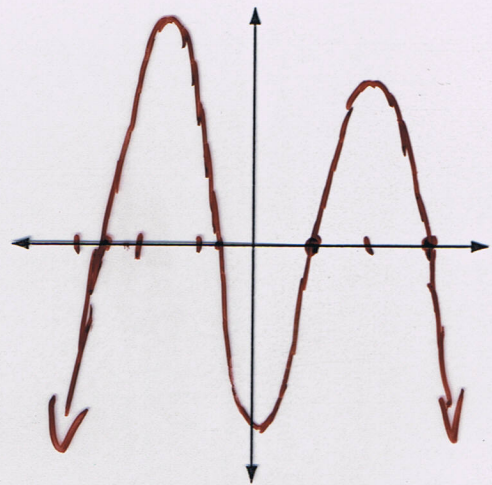
A polynomial inequality results when the equal sign in a polynomial equation is replaced with an inequality symbol.

The real zeros of a polynomial function, or x-intercepts of the corresponding graph divide the x-axis into intervals that can be used to solve a polynomial inequality.

**Example #1:** Write inequalities for the values of  $x$  shown.



**Example #2:** Sketch a graph of a quartic polynomial function  $y = f(x)$  such that  $f(x) > 0$  when  $-2.5 < x < -0.5$  or  $1 < x < 3$  and  $f(x) < 0$  when  $x < -2.5$  or  $-0.5 < x < 1$  or  $x > 3$ .



**Example #3:** For the given graph, write

