Example

Determine whether or not the given graph is the graph of a polynomial.

1. ANSWER: YES
   This is the graph of a polynomial because it is smooth (no sharp points anywhere) and connected and defined everywhere (no breaks or gaps in the domain).

2. ANSWER: NO
   This is not the graph of a polynomial because it is not connected and defined everywhere. There is a break in the graph and the function is not defined for $2 < x < 4$. 