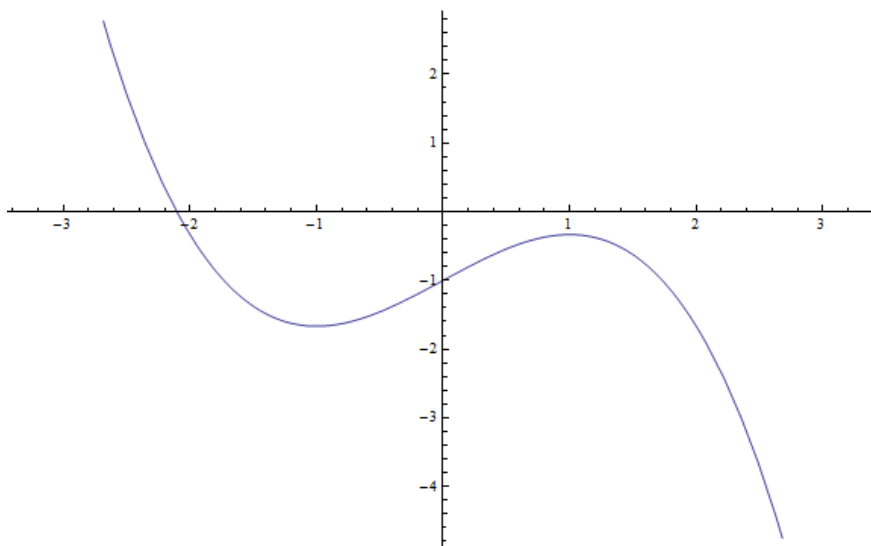1. Critical numbers: $x = -1, 0, 1/2$
   Absolute maximum at $(1, 4)$
   Absolute minimum at $(1/2, 27/16)$

2. Local minimum at $x = \sqrt[3]{3/2}$
   Local maximum: none on the given domain

3. (a) $x = -2, -1$
   (b) $(-\infty, -2)$ and $(-1, \infty)$
   (c) $(-2, -1)$
   (d) Local maximum at $x = -2$
       Local minimum at $x = -1$

4. (a) $(-1, 1)$
   (b) $(-\infty, -1)$ and $(1, \infty)$
   (c) $(-\infty, 0)$
   (d) $(0, \infty)$
   (e) See the graph below

5.

x	
1	local min
2	neither
3	local max
4	neither
5	inconclusive