1. Where is $f$ concave up? concave down?
2. Where does $f$ have inflection points?
3. Suppose that $f^{\prime}(-1)=0$ and $f^{\prime}(1)=$ 0 . If possible, classify $x=-1$ and $x=$ 1 as local maxima or local minima of $f$.
4. Suppose that $f^{\prime}(0)=0$. Is $f$ increasing or decreasing at $x=1$ ? at $x=-1$ ?
5. Suppose that $f^{\prime}(-1)=-2$ and $f(-1)=2$. Could $f(0)=3$ ?
(Hint: Can you determine if $f$ is increasing or decreasing on $[-1,0]$ ?)


Graph of $f^{\prime \prime}$

