$\begin{array}{ccc} \text{Math } 1525 & \text{Calculus I} \\ & \text{Prof. Paul Bailey} \end{array}$

Quiz 8 March 26, 2004 Name:

Problem 1. Let $f(x) = x^4 - 2x^2 - 8$; the polynomial f(x) may be viewed as a quadratic function in x^2 . Find the following information about f(x), and use this information to sketch its graph.

- (a) the y-intercept;
- (b) the real roots;
- (c) the first derivative and its roots;
- (d) the second derivative and its roots;
- (e) the local extreme points;
- (f) the inflection points.