

*This quiz is worth 10 points, and you have 10 minutes to complete it.*

**Calculators are NOT allowed today.**

**1.** (3 pts) Determine whether each of the following is true (T) or false (F).

- (a) **T F** If  $f$  is a polynomial function of degree  $n$ , then the graph of  $f$  must have  $n - 1$  turning points.
- (b) **T F** If  $f$  is a polynomial function with  $k$  roots, then  $f$  must have at least  $k - 1$  turning points.
- (c) **T F** If  $f$  is a polynomial function of even degree, then  $f$  is an even function.

**2.** (7 pts) Factor the polynomial  $f(x) = x^4 + 7x^3 + 9x^2 - 7x - 10$  as much as possible. Show all work carefully and in order, please.