Math 2300-013: Quiz 10

Name: _____   Score: _____

1. (a) Find $T_3(x)$, the 3rd-degree Taylor Polynomial for $f(x) = \sqrt{x}$ centered at $a = 1$.

(b) If you were to approximate $\sqrt{1.5}$ using $T_3(x)$, what bound does Taylor's Inequality give you for the error?

2. A function $y(t)$ satisfies the differential equation

$$\frac{dy}{dt} = y^4 - 6y^3 + 5y^2.$$

(a) What are the constant solutions of the equation?

(b) For what values of y is $y(t)$ increasing?