# Math 333 <br> Quiz 6 <br> Thursday, March 20, 2008 

1. Find the general solution of the differential equation $6 y^{\prime \prime}-y^{\prime}-y=0$.
2. Find the general solution of the differential equation $y^{\prime \prime}+2 y^{\prime}-8 y=0$.
3. Find the general solution of the differential equation $y^{\prime \prime}-2 y^{\prime}+y=0$.
4. Consider the differential equation

$$
t^{2} y^{\prime \prime}+2 t y^{\prime}-2 y=0, \quad t>0 .
$$

(a) Show that $y_{1}(t)=t$ is a solution of the differential equation.
(b) Find the general solution of the differential equation.

