Math 1b. Second-Order Homogeneous Differential Equations with Constant Coefficients (II)

Spring 2006

1. Find the general solution of the equation $y'' + 4y = 0$

2. Find the general solution of the equation $y'' + 2y' + 17y = 0$

3. Find the general solution of the equation $y'' - 6y' + 9y = 0$

4. Solve the initial value problem

$$
\begin{aligned}
y'' + 2y' + 3y &= 0 \\
y(0) &= 1 \\
y'(0) &= 0
\end{aligned}
$$

5. Solve the initial value problem

$$
\begin{aligned}
y'' - 4y' + 13y &= 0 \\
y(0) &= 4 \\
y'(0) &= 0
\end{aligned}
$$

6. Solve the initial value problem

$$
\begin{aligned}
y'' + 10y' + 25y &= 0 \\
y(0) &= 2 \\
y'(0) &= -1
\end{aligned}
$$