

Math 3280 Worksheet 29: Review problems

- (1) Find a basis for the subspace of solutions to the linear system

$$\begin{aligned}2y + z &= 0 \\x + 6y - z &= 0\end{aligned}$$

- (2) Find the general solution to $y^{(4)} + 6y''' + 13y'' = 0$.

- (3) Solve the initial value problem $y'' + 2y' = 3 + 4\sin(2t)$, $y(0) = 0$, $y'(0) = 2$.

- (4) Use the method of variation of parameters to find the general solution of $y'' + 4y' + 4y = t^{-2}e^{-2t}$.