

Math 3280 Worksheet 29: Review problems (ungraded)

- (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  $y'' + 4y' + 4y = t^{-2}e^{-2t}$ .