HW 2

Problem 1 sec1.4: #8 and find a counterexample of #8 when $W_1 \cap W_2 \neq \{\mathbf{0}\}$.

Problem 2 sec1.6: #2 (e)

Problem 3 sec1.6: #12 (a), (b), and solve the following problems:
Let $W_1 = \{p \in P_3(\mathbf{R}) | \, p(2) = 0\}$ and $W_2 = \{p \in P_3(\mathbf{R}) | \, p(1) = 0\}$.
Show that $W_1 \cap W_2 \neq \{\mathbf{0}\}$ and find a basis of $W_1 + W_2$.