Homework *Sec* 2.6

1. Determine whether the set $S = \{(-2,\ 2),\ (3,\ 5)\}$ is linearly independent or linearly dependent

2. Determine whether the set $S = \{(0,\ 0),\ (1,\ -1)\}$ is linearly independent or linearly dependent

3. Determine whether the set $S = \{(-2,\ 1,\ 3),\ (2,\ 9,\ -3),\ (2,\ 3,\ -3)\}$ is linearly independent or linearly dependent

4. Determine whether the set $S = \left\{\left(\frac{3}{4},\ \frac{5}{2},\ \frac{3}{2}\right),\ \left(3,\ 4,\ \frac{7}{2}\right),\ \left(-\frac{3}{2},\ 6,\ 2\right)\right\}$ is linearly independent or linearly dependent

5. Determine whether the set $S = \{2-x,\ \ 2x-x^2,\ \ 6-5x+x^2\}$ is linearly independent or linearly dependent.

6. Determine whether the set $S = \{1+3x+x^2,\ \ -1+x+2x^2,\ \ 4x\}$ is linearly independent or linearly dependent.

7. Determine whether the set $A = \begin{pmatrix} 1 & 0 \\ 0 & -2 \end{pmatrix}$, $B = \begin{pmatrix} 0 & 1 \\ 1 & 0 \end{pmatrix}$, $C = \begin{pmatrix} -2 & 1 \\ 1 & 4 \end{pmatrix}$ is linearly independent or linearly dependent.