1. Which of the following lists of vectors in $\mathbb{R}^3$ are linearly independent?
   (a) $((-3, 0, 4), (5, -1, 2), (1, 1, 3))$
   (b) $((-3, 0, 4), (5, -1, 2), (9, -3, 14))$
   (c) $((2, -1, 0), (3, 1, 1), (-3, -2, 1), (1, 2, 3))$
   (d) $((-3, 0, 4), (-6, 0, 8))$

2. Which of the following lists of vectors in $P(\mathbb{F})$ are linearly independent?
   (a) $(6 - z^2, 1 + z + 5z^2)$
   (b) $(6 - z^2, 6 - z^2, 1 + z + 5z^2)$
   (c) $(3, 1 + 2z, 2 + 5z + z^2)$

3. Which of the lists of vectors in Problem 1 span $\mathbb{R}^3$?

4. Which of the lists of vectors in Problem 2 span $P_2(\mathbb{F})$?