QUIZ October 23, 2013

1. The following elements form a basis for $\mathbb{R}^3$:

$$\begin{pmatrix} 1 \\ 0 \\ 0 \end{pmatrix}, \begin{pmatrix} 0 \\ 0 \\ 1 \end{pmatrix}, \begin{pmatrix} 1 \\ 0 \\ 1 \end{pmatrix}$$

2. The following elements form a basis for $\mathbb{R}^3$:

$$\begin{pmatrix} 1 \\ 0 \\ 0 \end{pmatrix}, \begin{pmatrix} 0 \\ 1 \\ 0 \end{pmatrix}, \begin{pmatrix} 0 \\ 0 \\ 1 \end{pmatrix}$$

3. The following elements form a basis for $\mathbb{R}^3$:

$$\begin{pmatrix} 1 \\ 0 \\ 0 \end{pmatrix}, \begin{pmatrix} 0 \\ 1 \\ 0 \end{pmatrix}$$

4. The following elements form a basis for $\mathbb{P}_2$:

$$1, t^2, 1 + t^2.$$

5. The following elements form a basis for $\mathbb{P}_2$:

$$1, t, t^2.$$

6. The following elements form a basis for $\mathbb{P}_2$:

$$1, t.$$

7. The following elements form a basis for $C[0,1]$ (the space of continuous functions on the inteval $[0,1]$):
$$\sin(2t), \sin(t)\cos(t)$$

8. The following elements form a basis for $C[0,1]$ (the space of continuous functions on the inteval $[0,1]$):
$$\sin(t), \cos(t)$$

1