

**Which of the Following are  
Subspaces of  $P_2$ ?**

- $\{p(t) : p(0) = 2\}$ .
- $\{p(t) : p(0) = 0\}$ .
- $\{p(t) : p'(1) = p'(2)\}$ .
- $\left\{p(t) : \int_0^1 p(t) dt = 0\right\}$ .
- $\{p(t) : p(-t) = -p(t) \text{ for all } t\}$ .