

Math 54 Quiz 4
Feb. 27, 2014

This quiz will be graded out of 20 points. Read each problem carefully and show your work.

- (10 points) Let \mathbb{P}_2 be the space of degree 2 polynomials. Define the map $T : \mathbb{P}_2 \rightarrow \mathbb{R}^2$ by $T(p) = \begin{bmatrix} p(-1) \\ p(1) \end{bmatrix}$.
 - Find a nonzero element of the kernel of T .
 - Find an nonzero element of the range of T .

2. (10 points) Find a basis for the nullspace and column space of this matrix

$$A = \begin{bmatrix} 1 & 1 & -2 & 1 & 5 \\ 0 & 1 & 0 & -1 & -2 \\ 0 & 0 & -8 & 0 & 16 \end{bmatrix}$$