Linear Algebra
C Term, Sections C01-C04
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PRACTICE ONLY – DO NOT HAND IN

Linear Algebra Quiz 5

Consider the vector space P of all polynomials in t. Determine whether or not the set

$$S = \left\{ t^5 - t^3 + t, \;\; 2t^4 + 2t^3 + 2t^2, \;\; t^4 + 2t^3 - t, \;\; 2t^5 + t^4 + t \right\}$$

of vectors in P is linearly independent in P. If S is a dependent set, express one vector as a linear combination of the others. Show all of your work.