

HOMEWORK #14 (M427K FALL 2004)

INTRODUCTION

This homework is meant for you to figure out what linear independence/dependence is.

1. IS THIS LINEARLY INDEPENDENT OR DEPENDENT?

$$\{x, 4x^2\}$$

2. IS THIS LINEARLY INDEPENDENT OR DEPENDENT?

$$\{1, x, x^2, x^3, \dots, x^5\}$$

3. IS THIS LINEARLY INDEPENDENT OR DEPENDENT?

$$\{1, x, x^3, x^3, \dots, x^{1000}\}$$

4. IS THIS LINEARLY INDEPENDENT OR DEPENDENT?

$$\{e^{2x}, e^{3x}\}$$

5. IS THIS LINEARLY INDEPENDENT OR DEPENDENT?

$$\{x, e^x, xe^x\}$$