

HOMEWORK #13 (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?

$$\{1, x, x^2, x^3, e^x\}$$

2. IS THIS LINEARLY INDEPENDENT OR DEPENDENT?

$$\{\sin(x), \sin(2x)\}$$

3. IS THIS LINEARLY INDEPENDENT OR DEPENDENT?

$$\{\sin(x), \cos(x)\}$$

4. IS THIS LINEARLY INDEPENDENT OR DEPENDENT?

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

5. IS THIS LINEARLY INDEPENDENT OR DEPENDENT?

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