

# MEMORIAL UNIVERSITY OF NEWFOUNDLAND

## DEPARTMENT OF MATHEMATICS AND STATISTICS

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SECTION 3.5

Math 2050 Worksheet

WINTER 2018

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**For practice only. Not to be submitted.**

1. For each of the following matrices, determine if  $A$  is diagonalizable. If so, find an invertible matrix  $P$  and a diagonal matrix  $D$  such that  $P^{-1}AP = D$ .

(a)  $A = \begin{bmatrix} 5 & -2 \\ 1 & 2 \end{bmatrix}$

(b)  $A = \begin{bmatrix} 2 & 1 \\ -1 & 0 \end{bmatrix}$

(c)  $A = \begin{bmatrix} 2 & -16 & -2 \\ 0 & 5 & 0 \\ 2 & -8 & -3 \end{bmatrix}$

(d)  $A = \begin{bmatrix} 8 & 9 & -9 \\ 0 & 2 & 0 \\ 4 & 6 & -4 \end{bmatrix}$