

# *MTH 141 HW 1*

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Section 1.2

## 1 Problem 1

ii)

$$\vec{b} = (1, 1, -2)$$

$$|\vec{b}| = \sqrt{(1)^2 + (1)^2 + (-2)^2} = \sqrt{6}$$

$$\frac{1}{|\vec{b}|} \vec{b} = \left( \frac{1}{\sqrt{6}}, \frac{1}{\sqrt{6}}, \frac{-2}{\sqrt{6}} \right)$$

## 2 Problem 3

$$A \begin{pmatrix} \frac{1}{4}, \frac{-1}{2} \end{pmatrix}$$

$$D = (1)(-2) - (4)(1) = -6$$

## 3 Problem 6

(5)

$$P_1 = (-1, -1, 5, 3); P_2 = (0, -2, -3, -1)$$

- 4 Problem 7
- 5 Problem 8
- 6 Problem 9
- 7 Problem 10
- 8 Problem 11
- 9 Problem 12