MATH 261 Quiz 1 Name: .
Student number:

Show all work. 5 points each.

1) Let $\mathbf{v} = \begin{bmatrix} -4 \\ 3 \end{bmatrix}$ and $\mathbf{w} = \begin{bmatrix} 6 \\ 2 \end{bmatrix}$:

i) find $|\mathbf{v}|$,

ii) find $\mathbf{v} + \mathbf{w}$ and illustrate.

2) Describe all points (x, y) such that $\mathbf{v} = x\mathbf{i} + y\mathbf{j}$ satisfies

i) $|\mathbf{v}| = 2$,

ii) find $\mathbf{v} \cdot \mathbf{i} = 2$ and illustrate.