

Solutions

Each answer shows the steps, then the **result**.

2.1

- by matrix-vector multiplication, giving $\begin{bmatrix} ax + by \\ cx + dy \end{bmatrix}$

2.2

- $\begin{bmatrix} 5 \\ 2 \end{bmatrix}$

2.3

- $\begin{bmatrix} 2 \\ 3 \end{bmatrix}$

3.1 B

3.2 B

3.3

(a)

- $\begin{bmatrix} 2 \\ 4 \end{bmatrix}$

(b)

- $\begin{bmatrix} 6 \\ 0 \end{bmatrix}$

(c)

- it stretches the x -component by 2 and leaves y unchanged