Practice worksheet | Matrix models

Matrix arithmetic revision

Name: _____ Date: _____

6 questions | 23 marks

1. For rows A: $\begin{pmatrix} 2 & -1 \\ 3 & 4 \end{pmatrix}$, and B: $\begin{pmatrix} 1 & 5 \\ -2 & 0 \end{pmatrix}$, find $2A - B$. [3 marks]

2. For rows A: $\begin{pmatrix} 1 & 2 & 0 \\ -1 & 3 & 2 \end{pmatrix}$, and column $b = (4, 1, 2)$, find Ab. [3 marks]

3. Let A have rows $\begin{pmatrix} 1 & 1 \\ 0 & 1 \end{pmatrix}$ and B have rows $\begin{pmatrix} 2 & 0 \\ 1 & 3 \end{pmatrix}$. [6 marks]

(a) Find AB. [3 marks]

(b) Find BA and compare. [3 marks]

4. A 4×3 matrix multiplies a 3×2 matrix. State the result order. Is the reverse product defined? [3 marks]

5. Equal matrices have rows $(x+2, 5), (4, y-1)$ and $(9, 5), (4, 6)$. Find x, y. [3 marks]

6. A bakery sells muffins at AUD 3 and rolls at AUD 2. Branch X sells $(12, 20)$; Y sells $(8, 30)$. [5 marks]

(a) State the sales-matrix and price-column orders. [2 marks]

(b) Find and interpret the income column. [3 marks]