Matrix multiplication and non-commutativity

Name: _____ Date: _____

6 questions | 12 marks

1. Find $\begin{pmatrix}2 & 1\end{pmatrix}\begin{pmatrix}3\\-4\end{pmatrix}$. [2 marks]

2. Find $\begin{pmatrix}1 & 2\\3 & 0\end{pmatrix}\begin{pmatrix}2 & 1\\1 & 4\end{pmatrix}$. [2 marks]

3. A is 3×2 and B is 2×5. State the order of AB and explain whether BA exists. [2 marks]

4. Find $\begin{pmatrix}1\\2\end{pmatrix}\begin{pmatrix}3 & 4\end{pmatrix}$. [2 marks]

5. For $A=\begin{pmatrix}0 & 1\\1 & 0\end{pmatrix}$, calculate A^2. [2 marks]

6. A shop sells 6 notebooks at 4 dollars each and 3 folders at 5 dollars each. Express the total as a row-column matrix product and evaluate it. [2 marks]