

AM2 and Math 3
Unit 1 Task 2 Practice

$$A = \begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix} \quad B = \begin{bmatrix} 0 & 3 \\ -2 & 1 \end{bmatrix} \quad C = \begin{bmatrix} 1 & 0 & 3 \\ 2 & -1 & 4 \\ 3 & 2 & 0 \end{bmatrix}$$

1. Find A^{-1}
2. Find $A \cdot A^{-1}$
3. Find B^{-1}
4. Find $B \cdot B^{-1}$
5. Find $\det(A)$
6. Find $\det(B)$
7. Find $\det(C)$
8. Find the area of a triangle with vertices $(0,0)$, $(0,4)$, and $(5,0)$.
9. Find B^2
10. Explain which properties hold true for matrices and show an example.

	Addition	Multiplication
Commutative		

NON-CALCULATOR WORK:

Given $A = \begin{bmatrix} 2 & -4 \\ 1 & 3 \end{bmatrix}$ $B = \begin{bmatrix} 4 & -1 \\ 2 & 0 \end{bmatrix}$ $C = \begin{bmatrix} 4 \\ 3 \end{bmatrix}$ $D = \begin{bmatrix} 3 & 1 \end{bmatrix}$ $E = \begin{bmatrix} -3 & 2 & 0 \\ 1 & -1 & -2 \end{bmatrix}$

Calculate. If not possible, put undefined:

- | | | | |
|-------------|----------|-------------|---|
| 11) $A + B$ | 12) $3B$ | 13) AC | 14) $\begin{vmatrix} 2 & -4 \\ 1 & 3 \end{vmatrix}$ |
| 15) AE | 16) AD | 17) $B + D$ | 18) $B - 2A$ |