

2.6 Matrices

2.6 pg 184 # 3

Find AB if

a) $A = \begin{bmatrix} 2 & 1 \\ 3 & 2 \end{bmatrix}, B = \begin{bmatrix} 0 & 4 \\ 1 & 3 \end{bmatrix}$

b) $A = \begin{bmatrix} 1 & -1 \\ 0 & 1 \\ 2 & 3 \end{bmatrix}, B = \begin{bmatrix} 3 & 2 & -1 \\ 1 & 0 & 3 \end{bmatrix}$

2.6 pg 185 # 15

Let

$$A = \begin{bmatrix} 1 & 1 \\ 0 & 1 \end{bmatrix}$$

Find a formula for A^n , whenever n is a positive integer.

2.6 pg 185 # 19

Let A be the 2×2 matrix

$$A = \begin{bmatrix} a & b \\ c & d \end{bmatrix}$$

Show that if $ad - bc \neq 0$, then

$$A^{-1} = \begin{bmatrix} \frac{d}{ad - bc} & \frac{-b}{ad - bc} \\ \frac{-c}{ad - bc} & \frac{a}{ad - bc} \end{bmatrix}$$

Extra Problem

Let

$$A = \begin{bmatrix} 1 & 1 & 1 & 3 \\ 2 & 0 & 4 & 6 \\ 1 & 1 & 3 & 7 \end{bmatrix}$$

What is A^t ?

2.6 pg 185 # 27

Let $A = \begin{bmatrix} 1 & 0 & 1 \\ 1 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix}$ and $B = \begin{bmatrix} 0 & 1 & 1 \\ 1 & 0 & 1 \\ 1 & 0 & 1 \end{bmatrix}$ Find

a) $A \vee B$

b) $A \wedge B$

c) $A \odot B$