Ex: Find $\boldsymbol{a} \times \boldsymbol{b}$ if $\boldsymbol{a} = [3, -1, 0]$ and $\boldsymbol{b} = [2, 4, -3]$.

Ex: Find the area of the parallelogram formed by the vectors $\boldsymbol{a} = [3, -1, 0]$ and $\boldsymbol{b} = [2, 4, -3]$.

Ex: Find the volume of the parallelepiped formed by the vectors $\boldsymbol{a} = [3,1,3]$, $\boldsymbol{b} = [0,1,-4]$ and $\boldsymbol{c} = [2,2,0]$.

Exercises

Solve for x and y, given that

$$\begin{bmatrix} x & 3y \\ 3y & x \end{bmatrix} = \begin{bmatrix} 6 & -9 \\ -9 & 6 \end{bmatrix}$$

Exercises

Let $A = \begin{bmatrix} 4 & 1 \\ 0 & -3 \end{bmatrix}$, $B = \begin{bmatrix} 1 & 3 & -5 \\ 1 & 0 & -2 \end{bmatrix}$ and $C = \begin{bmatrix} -2 & 3 \\ 1 & -1 \end{bmatrix}$. Find $A - 3C$, AB and BA.

Exercises

Let $A = \begin{bmatrix} 4 & 1 \\ 1 & -3 \end{bmatrix}$, find A^2.

Exercises

Verify that $B = A^{-1}$ if $A = \begin{bmatrix} 2 & 6 \\ 3 & 8 \end{bmatrix}$ and $B = \begin{bmatrix} -4 & 3 \\ \frac{3}{2} & -1 \end{bmatrix}$.