

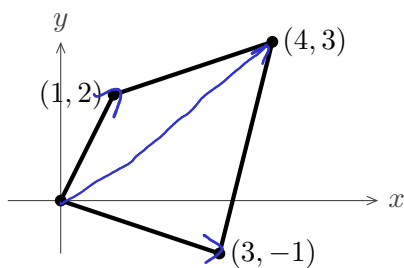
Determinants and areas

1. a) Compute $\begin{vmatrix} 1 & 2 \\ 3 & 4 \end{vmatrix}$. $= 4 - 6 = -2$

b) Compute $\begin{vmatrix} 1 & -2 \\ -3 & 4 \end{vmatrix}$. $= 4 - 6 = -2$

c) Compute $\begin{vmatrix} 3 & 4 \\ 1 & 2 \end{vmatrix}$. $= 6 - 4 = 2$

2. Find the area of the quadrilateral shown.



$$\left| \frac{1}{2} \begin{vmatrix} 4 & 3 \\ 1 & 2 \end{vmatrix} \right| + \left| \frac{1}{2} \begin{vmatrix} 4 & 3 \\ 3 & -1 \end{vmatrix} \right|$$
$$\frac{5}{2} + \frac{13}{2} = 9$$

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18.02SC Multivariable Calculus
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