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Proof without Words: A  $2 \times 2$  Determinant Is the Area of a Parallelogram

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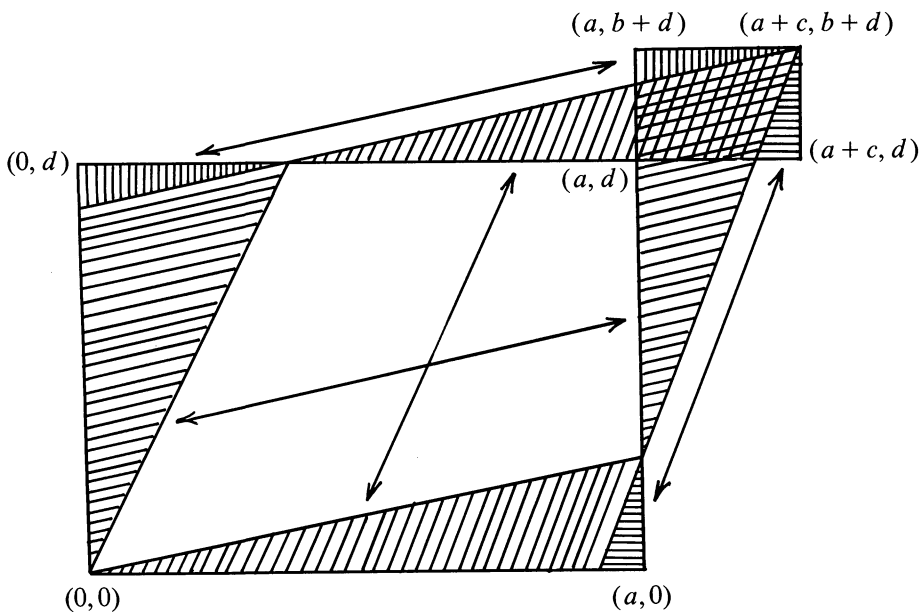


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**Proof without words:**  
**A  $2 \times 2$  determinant is the area of a parallelogram**



$$\begin{vmatrix} a & b \\ c & d \end{vmatrix} = ad - bc = \left\| \begin{array}{|c|} \hline \square \\ \hline \end{array} \right\| - \left\| \begin{array}{|c|} \hline \square \\ \hline \end{array} \right\| = \left\| \begin{array}{|c|} \hline \square \\ \hline \end{array} \right\|$$

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*Editor's note: This proof is for the case  $0 < b < d, 0 < c < a$ . Professor Golomb has found dissections for the other cases as well, which the reader may seek to rediscover.*