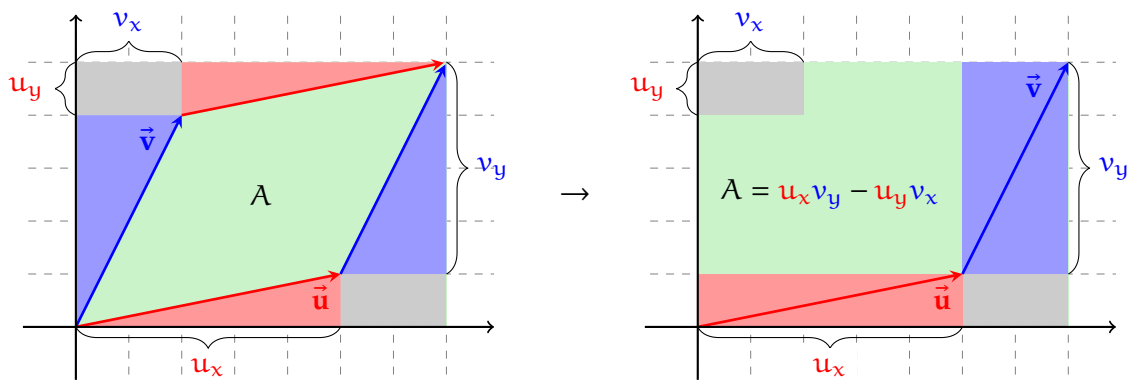
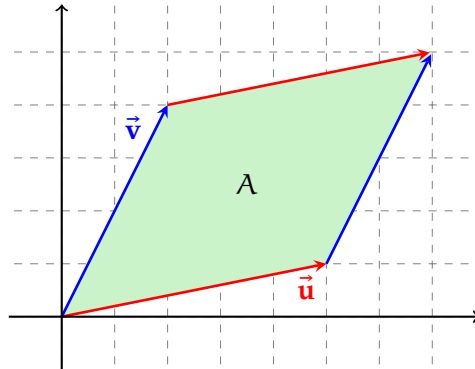


ON THE PYTHAGOREAN THEOREM

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$$A = u_x v_y - u_y v_x$$

Diagram illustrating the area formula for a parallelogram. The area A is shown as a green parallelogram. The formula is derived from the components of the vectors u and v: $A = u_x v_y - u_y v_x$. The diagram shows the parallelogram A and the components u_x , u_y , v_x , and v_y used in the formula.

- Coordinates
- Area formula; application: shoelace formula
- Length of a vector
- Dot product
- Orthogonality
- Angles, sin, cos