

Math 203 — Cross Product

Problem 1. Compute $\mathbf{v} \times \mathbf{w}$ and for each example below.

- a. $\mathbf{v} = \langle 3, 2, -2 \rangle, \mathbf{w} = \langle 0, 1, 5 \rangle$
- b. $\mathbf{v} = \langle 4, -5, -5 \rangle, \mathbf{w} = \langle 3, 3, 4 \rangle$
- c. $\mathbf{v} = \mathbf{i}, \mathbf{w} = \mathbf{j}$
- d. $\mathbf{v} = \mathbf{i}, \mathbf{w} = \mathbf{k}$

Problem 2. Without doing additional computation, find $\mathbf{w} \times \mathbf{v}$ in each example of Problem 1.

Problem 3. Find the area of the parallelogram formed by $\mathbf{v} = \langle 1, 1, 1 \rangle, \mathbf{w} = \langle 5, 0, 7 \rangle$.

Problem 4. Find the area of the triangle with vertices $A = (0, 1, 0), B = (1, 3, -1)$, and $C = (2, 1, 1)$.