

## Problem 1

Let  $u = 2i + -j$  and  $v = 3i + 4j$ . Find  $\text{proj}_v u$  and  $\text{proj}_u v$ . Graph all 4 vectors to make sure that your computation makes sense.

## Problem 2

Let  $u = \langle 1, 3, 5 \rangle$  and  $v = \langle 2, 1, -1 \rangle$ . Compute  $u \times v$ .

### Problem 3

Let  $u = 2i + j + 3k$  and  $v = -i + 3j + 2k$ . Find  $u \times v$ .

### Problem 4

Let  $P$  be the plane containing the points  $(1, 0, 0)$ ,  $(3, 2, 4)$  and  $(2, 1, 3)$ . Find a vector perpendicular to this plane.