Review

- If your grades are (HW Ave., Q Ave., P, F) distributed as $(30\%, 20\%, 20\%, 30\%)$ and you scored $(8, 5, 10, 7)$, what is your final grade? Compute it as a dot product.
- Exercise 3, HW1. (Only part 1)

Names

- i, j, k are the canonical vectors $(1, 0, 0), (0, 1, 0)$ and $(0, 0, 1)$.
- Add 3 copies of i, one of j and -2 of k. What vector do we get?
- Write down $(4, -3, 1)$ as a combination of i, j, k.
- Exercise 1, HW1.

Cross product

- Write down the vector $(1, 2, 3)$.
- Directly below it write the vector $(4, 5, 6)$.
- Once again, below, write (i, j, k).
- Enclose with two bars to the side.
- Copy the first two columns to the right.
- Highlight the diagonals going southeast, take their product and add them.
- Do the same for the northeast diagonals but subtract them.
- Exercise 3, HW1. (part 2)

Length, angles

- The length/magnitude/norm of the vector $(3, -5, 1)$ is $\sqrt{3^2 + (-5)^2 + 1^2} = \sqrt{35}$. The length of v is denoted $|v|$.
- Exercise 2, HW1. (part 1)
- A unit vector has length 1. Scaling a vector by 1/length makes it a unit vector.
- Exercise 2, HW1. (part 2)
- The following formulae hold $|u \cdot v| = |u||v|\cos(\theta)$, $|u \times v| = |u||v|\sin(\theta)$, and $|u \cdot u| = |u|^2$.
- Exercise 6, HW1.