

HW 1
Math 261, F17

Please see the course syllabus for details on how to turn in your homework assignments. This one is due at the beginning of your class on **Wednesday, August 30**.

1. Find a unit vector pointing in the direction of $\mathbf{v} = \langle 4, -3, 0 \rangle$.
2. Compute $\langle 2, 1, 1 \rangle \cdot \langle 3, 2, 0 \rangle$.
3. Compute $\langle 2, 1, 1 \rangle \times \langle 3, 2, 0 \rangle$.
4. Some shape is described by the equations $\{x = 2, y = 5\}$ in \mathbb{R}^3 (e.g., a circle, a plane, a line, etc.). Please name both the shape **and** a point that the shape goes through.
5. Sketch a circle of radius 2 that lives in the plane $y = 5$ and is centered at $(0, 5, 0)$. (We don't require sketches on exams, but sketching and understanding 3-D figures are important skills in Calc 3.)