# Vectors and Components

You may find it useful to plot some or all of these vectors on the grid below. The little circle is (0,0).

1. Let . Find a vector **** perpendicular to ****.
2. Find unit vectors and in the directions of **** and ****.
3. Let . Find the components of and in the directions of and .
4. Verify that .
5. Let and let . Verify that ****and ****areperpendicular to one another.
6. Without doing any computations, what do you expect will be the components of in the directions of ****and ****?
7. Find the components of in the directions of ****and **.**
8. Generalize the result in (7).