Exercise to do in class

(1) Find x and y where (a) $(x,3)=(2,x+y)$

(b) $(x,y+1)=(y-2,6)$

(2) Find the magnitude of vectors $\vec{u}=(5,-7)$ and $\vec{v}=(-8,15)$

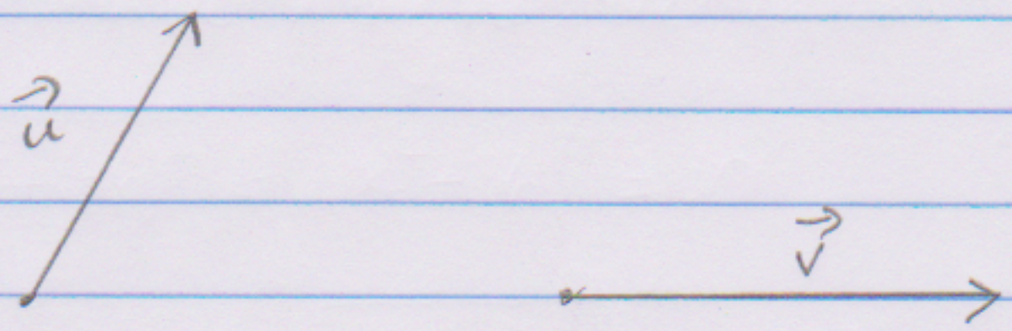
(3) Find the value(s) of x such that $\vec{u}=(x,-12)$ has magnitude equal to 13.

Basic Operations

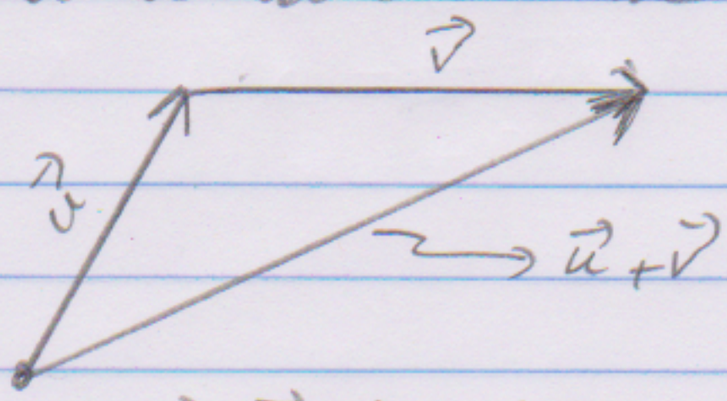
Vector addition

We will discuss the geometric way of adding two vectors in R^2 first and then we will do vector addition algebraically.

Suppose we have two vectors $\vec{u}$ and $\vec{v}$.



To add the two vectors $\vec{u}$ and $\vec{v}$, we have to move one of the vectors so that its initial point coincides with the terminal point of the other vector but keeping the length and the direction the same.



And the sum $\vec{u}+\vec{v}$ is the vector whose initial point is the initial point of $\vec{u}$ and whose terminal point