Handout for LessonPlan 13

1) Draw a graph showing the product of vector $\vec{V}$ by the constant 2.

$\vec{V} = \langle 1,3 \rangle$

2) Draw a graph showing the sum of vectors $\vec{V} + \vec{U}$ where

$\vec{V} = \langle 2,2 \rangle$
$\vec{U} = \langle -2,3 \rangle$

3) Draw a graph showing the difference of vectors $\vec{V} - \vec{U}$ where

$\vec{V} = \langle 3,5 \rangle$
$\vec{U} = \langle 1,1 \rangle$

4) Write the vector product, sum or difference in component form. Then write the magnitude and direction of the vector.

$5\langle 3,-2 \rangle =$

$\langle 6,1 \rangle + \langle 5,2 \rangle =$

$\langle -3,-2 \rangle - \langle 4,4 \rangle$

5) A boat that travels at 3 miles an hour crosses an east/west river that is flowing east at 2 miles per hour. If it takes an hour to cross the river, how far down river will the boat land?

6) A balloon requires 100 lbs of force to balance it so it does not rise or fall. If two wires hold it down, one at 45 degrees and another at 60 degrees to the vertical, what is the force on each wire.

100lbs

60°   45°