

DAY 15

Homework Assignment (see syllabus for homework collection information)

1. $\mathbf{A} = 200 \text{ mi due N.}$
 $\mathbf{B} = 15 \text{ m/s } \mathbf{j.}$
 $\mathbf{C} = 65 \text{ lb @ } 45^\circ \text{ above the horizontal.}$

Determine the following:

- 2 \mathbf{A} $-1.5 \mathbf{A}$ $3.5 \mathbf{B}$ $-10 \mathbf{C}$
2. A woman leaves her apartment, walks 2 blocks East, 4 blocks North, and 1 block West. What is her position relative to her apartment?
3. Three people are pulling a boat into a dock. Person A is pulling with 70 lbs of force @ 30° W of N. Person B is pulling with 100 lbs of force @ 25° N of E. Person C is pulling with 80 lbs of force due E.

What is the net force on the boat?

4. A plane takes off from the Louisville airport and follows the following headings at a speed of 200 mph:
S for 5 minutes.
SW for 30 minutes.
 22.5° S of W for one hour.

What is the plane's position relative to the airport after all this?

5. In the above problem, what heading and time would be required to return directly to the airport?
6. Re-work example #2 for Day 14 (the rock-toss problem) with the rock being launched at 30° above the horizontal. Re-work it with the rock being launched at 30° below the horizontal.

