Target: Geometry and Algebra 2

Lesson Overview: This lesson should be presented after the students have worked with vectors in the coordinate plane and Using Vectors (Day 1). Students will plot a course diagonally across the gym floor around set up obstacles using (1) vectors from Algebra2 and (2) headings from navigation.

Materials:
One per group:
25 foot tape measure
Instruments to measure angles
Copy of a large rose compass

Focus Questions:
How do I plot a course from one corner of the gym diagonally to the other corner without crashing?

Classrooms Activities:
Have students work in groups of three or four. I will have obstacles (chairs connected with ropes) scattered around the gym, and the students will plot a courses from one corner of the gym to the diagonally opposite corner. I will have a large rose compass for the groups to reference angles from. They should be able to use lines on the gym floor (even lines between the boards) to measure angles from and then reference the rose compass. Distance will be found using the 25 foot tape and measured to the nearest half inch. (You could do some work with scale factors here also). Once the groups have their headings, they will compare them to the coordinate plane and convert their headings to distance and direction. Four different groups could go at the same time, starting at each of the corners.

Assessment:
Groups will turn in their headings for each leg corresponding to the course the group took across the gym. Also the distance-direction of a vector on the coordinate plane for each heading that the group used to plot their course should be shown in a table.