Are We There Yet?

Objective: The students will demonstrate their knowledge of vectors by completing an orienteering course.

Procedure: First you must be familiar with the use of a compass. First, point the compass towards an object such that the arrow points towards the object that you are interested in finding a bearing to. Read the bearing value from the compass. To practice, take some reading of various objects within the room, the pencil sharpener, the clock, and the Einstein poster to name a few. Record these readings. Make sure I have come around and you have successful demonstrated the use of the compass before we move on.

Each orienteering course starts where instructed. Starting at the designated spot, follow the vectors given to you, along the way recording the letter of the spot that you ended up after each vector. When you are finished following the vectors, measure and record your resultant. Remember how the resultant is measured!

In the lab report, I want you to add up the vectors graphically (including resultant) and show me the resulting picture. I also want to see the sequence of letters that you walked through.

Course 1

Start at C

260° for 26 steps

204° for 9 steps

108° for 21 steps

337° for 25 steps

Course 2

Start at H

188° for 38 steps

24° for 11 steps

225° for 14 steps

75° for 12 steps

Course 3

Start at G

71° for 13 steps

22° for 22 steps

240° for 18 steps

200° for 27 steps

Course 4

Start at J

354° for 21 steps

145° for 14 steps

34° for 32 steps

276° for 19 steps

Course 5

Start at I

320° for 16 steps

166° for 18 steps

295° for 10 steps

129° for 18 steps

Course 6

Start at F

2° for 9 steps

240° for 11 steps

196° for 19 steps

79° for 15 steps

Course 7

Start at B

12° for 35 steps

221° for 43 steps

6° for 37 steps

150° for 24 steps

Course 8

Start at E

131° for 22 steps

191° for 13 steps

322° for 26 steps

174° for 21 steps

Course 9

Start at K

345° for 12 steps

179° for 26 steps

85° for 6 steps

23° for 27 steps

Course 10

Start at D

43° for 25 steps

217° for 14 steps

200° for 14 steps

160° for 9 steps