

Adding Vectors by Components and Adding Velocities in 2-Dimensions

SPH3U – Motion in 2 Dimensions

As complicated as it gets – Neither Vector is Due North, South, East, or West

A hockey puck travels a displacement of 4.2 m [S 38° W]. It is then struck by a hockey player's stick and undergoes a displacement of 2.7 m [E 25° N]. What is the puck's total displacement?

Adding Velocities in 2-Dimensions

- [Video – The River Boat Problem](#)
- The keys to these types of problems:
 - Treat the x and y components independently
 - The same time is taken for each motion !!!!!

Pg. 74 – Practice #2

A swimmer swims perpendicular to the bank of a 20.0 m wide river at a velocity of 1.3 m/s. Suppose the river has a current of 2.7 m/s [W]. T/1

(a) How long does it take the swimmer to reach the other shore? [ans: 15 s]

(b) How far downstream does the swimmer land from his intended location? [ans: 42 m [W]]

Work for the Day

- Pg. 69 – go over Sample Problem #1
- Pg. 71 #1 (similar to Sample problem #1), #2 (similar to the first example in today's note)
- Pg. 72 – 74 go over the river crossing examples in the text.
- Pg. 75 #2,3,7,8
- Quiz Thursday