Name: Relative Velocity & Velocity In Class Assignment

1. Anita Bath ran 11.2 km North and then turned around and ran 1.65km South before stopping. What is her distance travelled and displacement? (2 marks)
2. What are the x and y components of the force vector of 120N @ 38o [West of South]? (2 marks)
3. If Barb Dwyer destination is 25.0 km South and 31.00km East of his position, what is the shortest distance he should travel to get to his destination? (include a drawing) (3 marks)
4. Chris Cross was looking for a shop. He walked 22m East, then 13m South, then 18m West, then 19m South, then 12m West, then 45m North. What was his distance and displacement? Please include a diagram. (3 marks)
5. What is the net displacement of Chris P Bacon if he drove 48km South and 32km East? (2 marks)
6. Claire Annette runs 1.00x102m West, then runs 3.00x102m @ 75o East of North. Afterwards, he runs [4.00x102@45o](mailto:4.00x102@45o) South of West. What is Claire’s displacement? (4 marks)
7. Candy Kane is moving around on a float in a parade. She is walking north at 1.50m/s while the float is moving 2.5m/s south.
   1. What is her velocity relative to the float? (1 mark)
   2. What is her velocity relative to a stationary observer? (1 mark)
8. Caitlyn has a plane that flies with a maximum speed of 433km/h. She points her plane South but experiences a wind of 175.0km/h @ 620 [W of N]
   1. What is her resultant velocity? (3 marks)
   2. What heading should she take to counter the West wind? What is her resultant velocity? (3 marks)
   3. How long does it take her to reach her destination which is 2805.5km South? (1 mark)