Name: Relative Velocity & Velocity In Class Assignment

1. Anita Bath ran 17.2 km west and then turned around and ran 4.65km east before stopping. What is her distance travelled and displacement? (2 marks)
2. What are the x and y components of the force vector of 140N @ 38o [North of West]? (2 marks)
3. If Barb Dwyer destination is 20.0 km South and 21.00km West 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 12m East, then 23m South, then 10.m West, then 29m North, then 22m West, then 25m 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 45km North and 22km East? (2 marks)
6. Claire Annette runs 5.00x102m South, then runs 3.00x102m @ 75o North of East. 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 0.50m/s while the float is moving 3.5m/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 333km/h. She points her plane North but experiences a wind of 75.0km/h @ 500 [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 North? (1 mark)