/20

Vectors Worksheet

Finding Average Speed, Resultant Displacement and Average Velocity

Name: _____ Date: _____

- Show all work, all units, label the vectors. Use the most suitable method (either algebra or vectors)

1. [2] Tommy drives his car down the street. He travels 120 m [E], stops to say hi to his friend and then travels another 55 m [E] to the store. He then drives 65 m [W].
   a) What is the total distance he travels?
   b) What is his resultant displacement?

2. [3] Allison drives her mustang convertible 100 km [N] to talk to Beth. She talks with her for a while and then travels 400 km [W] to meet with a friend.
   a) What is the total distance she travelled?
   b) What is her resultant displacement [Size and Direction]?

3. [1] Briefly describe a situation in which the average velocity of an object is zero, but the average speed is not zero.

4. [4] A sports car travels 800 km [W] in 7 hours and then travels another 300 km [N] in just 3 hours. Calculate:
   a) The total time of the trip.
   b) The average speed.
   c) The average velocity.

5. [5] A rocket powered hovercraft flies 350 km [E] then for some reason changes direction and travels 900 km [S 30^0 E] (*or* 900 km [30^0 E of S]) and then travels 100 km [W]. The trip takes a total of 125 minutes. Calculate:
   a) How many hours is 125 minutes?
   b) The average speed (km/h).
   c) The average velocity (km/h).

6. [5] Superwoman in a rush to see a movie flies from her home 500 km [W], she then changes direction and travels 1000 km [S], realizing she flew past the theatre she then changes direction again and travels 900 km [E 30^0 N]. The trip takes her 2 hours. Calculate:
   a) Her average speed (km/h).
   b) Her average velocity (km/h).