Vectors Worksheet

1. Five people are competing in a tug of war game. Three are on the left side, each pulling with 250 N of force. Two people on the right are each pulling at 300 N of force. Who will win the tug of war game and with how much force will they win? Draw a sketch of what is happening.

Use equation $\underline{C^2 = A^2 + B^2}$ to answer these questions.

2. If a car drives 10 miles due west then turns north and drives another 5 miles, how far is the car from the original starting point?

3. Suppose you drive 500 km north from your house then turn west and drive 200 km west, how far are you from your house?

4. A dog toy has two ropes connected to it. One dog is pulling due South with 20 lbs of force while a 2nd dog is pulling due 75 degrees North of East with 50 lbs of force. What is the net force on the dog toy and in which direction will the dog toy be moved?

$R = ?$

$75°$

5. A plane flies due South 200 km/h while the wind blows at 30 km/h 35 degrees South of East. What is the resultant?

$35°$