Pre-Calculus w/Trig Mathews/Peto
Vector Applications Day 11

Name _____
Date _____ Period _____

Solve. Make a diagram to help you. Round all measures to the nearest hundredth.

1. A plane flies due west at 250 kilometers per hour while the wind blows south at 70 kilometers per hour. Find the plane's resultant velocity and direction.

2. A plane flies east for 200 km, then 60° south of east for 80 km. Find the plane's distance and direction from its starting point.

3. One force of 100 units acts on an object. Another force of 80 units acts on the object at a 40° angle from the first force. Find the magnitude and direction of the resultant force on the object.

4. An airplane is heading due north at 260 mph. A 16-mph wind blows from the east. Find the ground speed and direction of the plane.

5. The engine on a boat is propelling it forward with a force of 125 N. The wind is blowing the boat with a force of 85 N at an angle of 72° from the force of the engine. Find the magnitude and direction of the path of the boat.

6. Charlie is trying to pull a disabled snowmobile to the lodge. The snowmobile could be pulled with a force of 120 pounds parallel to the ground. If Charlie is pulling at an angle of 25° to the ground, with how much force must he pull? (You may assume there is no friction.)