Classroom Voting Questions: Multivariable Calculus

13.2 Vectors in General

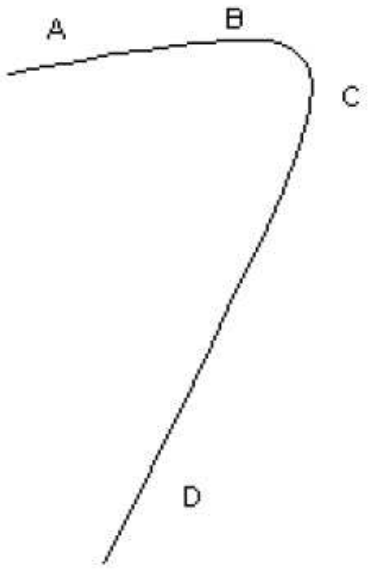
1. A plane is flying due south. There is a strong wind from the west. In what direction does the pilot have to point the plane to stay on course?

   (a) South
   (b) East
   (c) West
   (d) Southeast
   (e) Southwest

2. A boat is traveling with a velocity of 30 mph due West relative to the water. The current is flowing 10 mph at an angle of 45° West of North. What is the boat's net velocity?

   (a) 37.7 mph at 10.8° South of West
   (b) 37.7 mph at 79.2° West of North
   (c) 24.0 mph at 17.1° North of West
   (d) 24.0 mph at 17.1° West of North
   (e) None of the above

3. A car is traveling along the path from point A towards point D. When is the velocity vector closest to being parallel to $\hat{j}$ (assuming this path is in the xy plane)?



(a) A

(b) B

(c) C

(d) D