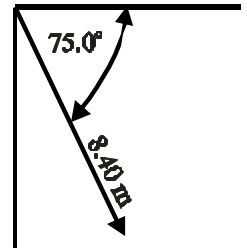


NAME \_\_\_\_\_  
PERIOD \_\_\_\_\_

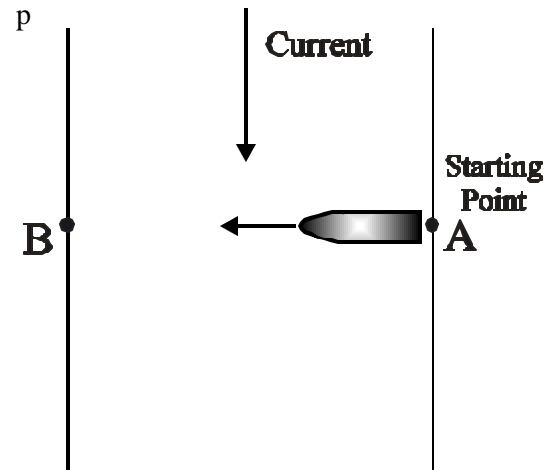
PHYSICS QUIZ #3E  
TWO DIMENSIONAL MOTION

1. Determine the  $i$  and  $j$  components of the vector at the right. [3 pts]



2. A boat, which has a speed of 9.60 m/sec in still water heads directly across a river as shown below. The river has a current of 3.80 m/sec and the river is 1860 meters wide.

a. How long will it take for this boat to reach the opposite shore of the river? [3 pts]



b. What will the velocity [give both magnitude and direction] of the boat as measured by an observer standing along the shore? [3 pts]

c. What will be the final displacement [give both magnitude and direction] of the boat when it reaches the opposite shore of the river? [3 pts]

d. What should the heading [direction in degrees] of the boat be if it is to land at point B on the opposite shore of the river? [3 pts]