Name: Period:

River Vector Problems I

*Show all work including vector drawings, equations and substitutions with units.*

1. A boat heads directly North across a river 40 meters wide at 8 m/s. The current is flowing at 3.8 m/s to the East.
a) What is the resultant velocity of the boat?

b) How far downstream is the boat when it reaches the other side?

c) How long does it take to cross: the river?

2. A river flows due south. A riverboat heads 27⁰ north of west and is able to go straight across the river at 6 mi/hr.
a) What is the speed of the current?

b) How wide is the river if it takes 10 minutes to cross?