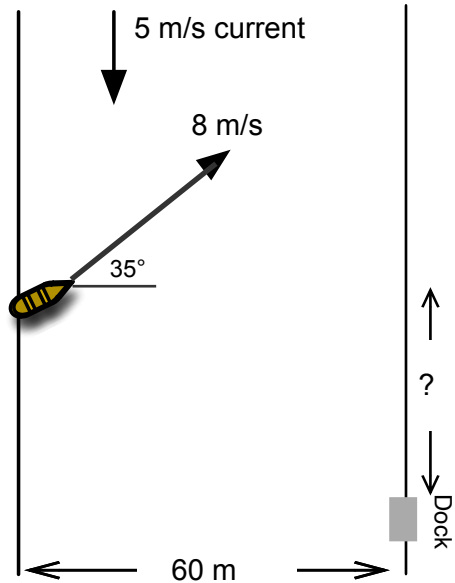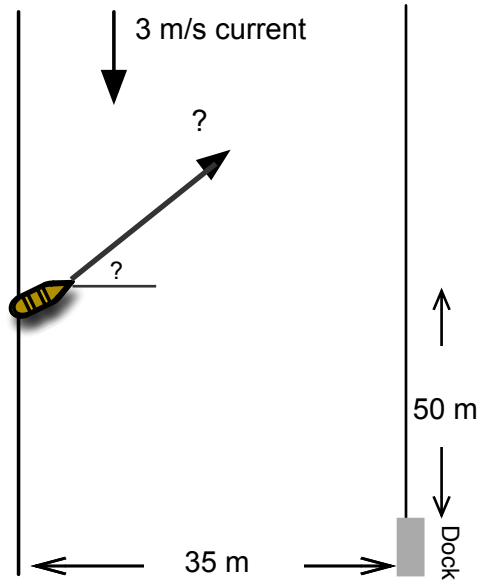4 m/s current

10 m/s

?

Dock

90 m

The motorboat's output speed is 10 m/s and the river speed is 4 m/s.

a. What angles does the boat need to be pointed up the river to reach the dock that is straight across the river, NOT displaced downstream?

b. How long will to crossing take?

5 m/s current

8 m/s

35°

60 m

?

Dock

The motorboat's output speed is 8 m/s, pointed 35° upstream, and the river speed is 5 m/s. The boat lands on a dock that is displaced downstream.

a. How long did the crossing take?

b. How far downstream was the boat displaced?

3 m/s current

?

?

50 m

35 m

Dock

The rivers speed is 3 m/s, and the boat crosses the river in 5 seconds while being displaced 50 meters downstream.

a. What angle is the boat pointed upstream?

b. What is the boat's motor output?