

1. This map shows the location of the *Salmon King* when its skipper decided to navigate to Pirate's Cove. The length of the route indicated on the map below is 30 nm and direction 54 degrees. Suppose that as the *Salmon King* heads for Pirate's Cove, a strong wind blows at 7 knots in a direction of  $115^\circ$ .

- a. Find the components for the vector representing the *Salmon King*'s location
- b. Find the components of the wind vector.
- c. The skipper wants to be moving on a course toward Pirate's Cove at about 30 knots, using the wind to help her. What direction and speed should she set to account for the wind and arrive at Pirate's Cove as planned? Include a diagram in your explanation.

