Teacher Answer Key

Sample Solution Using the Recommended Slack Time (7:30 PM on Sept. 10)

1. Slack Time Chosen: 7:30 PM (Sept. 10)

2. Time from Triple Island Departure (Sept. 9, 6:30 PM) to Seymour Narrows Slack (Sept. 10, 7:30 PM) = 25 hours

3. Speed from Triple Island to Seymour Narrows:

Distance ÷ Time = 378 nm ÷ 25 hrs ≈ 15.1 knots

4. Time from Seymour Narrows (Sept. 10, 7:30 PM) to 1st Narrows (Sept. 11, 6:30 AM) = 11 hours

5. Speed from Seymour Narrows to 1st Narrows = 106 nm ÷ 11 hrs ≈ 9.6 knots

Both speeds required are under the max of 17 knots, so this plan works!

Note: Examples if students try earlier slack times:

01:59 PM Slack:
Time to reach Seymour Narrows = 19.5 hrs
Speed Required = 378 ÷ 19.5 ≈ 19.4 knots (Too fast)

07:48 AM Slack:
Time to reach Seymour Narrows = 13.25 hrs
Speed Required = 378 ÷ 13.25 ≈ 28.5 knots (Way too fast)

These options are not realistic given the ship's max speed of 17 knots.

Notes for Teachers:

Encourage students to try multiple slack times.
Emphasize real-world logic: early slack currents would require unrealistic speeds.
Invite discussion on why planning for tides is critical in marine navigation.