

Name: _____

Date: _____

Problem-Based Task: Timing the Tide

Coaching

- a. Sketch the situation on a coordinate plane, noting relevant data from the problem on the sketch.

- b. Use the given information to determine three points through which the model must pass.

- c. Use the data points from part b to determine the amplitude, period, phase shift, and vertical shift for a cosine model.

- d. Use the parameters from part c to develop a function that models the situation.

- e. Verify that the model produces the data points identified in part b.

- f. Simplify the model.

- g. Verify that the simplified model still produces the correct data points.

- h. Find the time t corresponding to 9 A.M. on the third day, evaluate the function at this time, and interpret the result.