

Ocean 10 Activity 6 10/12/12

Waves generally break when the water depth is less than $\frac{1}{20}$ of the wavelength.

Use our knowledge of map scale, map distance, real world distance, and the geometry of breaking waves to calculate the depth of the water where these waves are first breaking.

- (1) Measure the wavelength of these waves in five places. Mark these locations on the map and label them one through five. In the space below and on the back of this sheet of paper, convert these measurements to meters. Calculate the average (mean) of the measurements. Use waves that are easy to measure, close to the shoreline.
- (2) Use your calculation for wavelength to determine the depth of the water where these waves are breaking (given the statement above from your textbook).
- (3) Draw and label a depth contour on the map designating the depth you calculated in step 2.



1,000 500 0 1,000 Meters