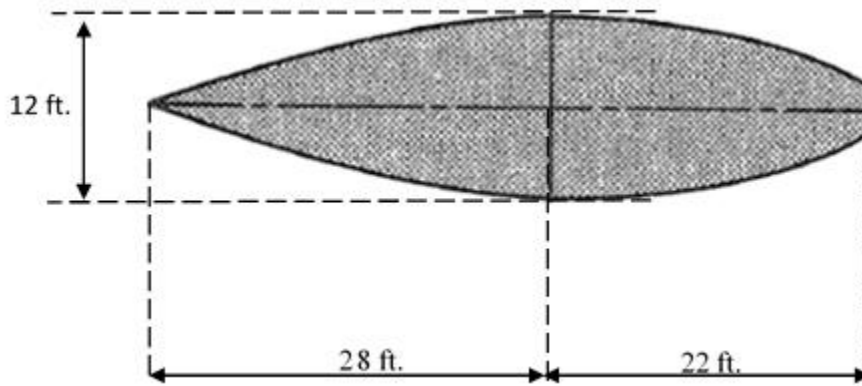


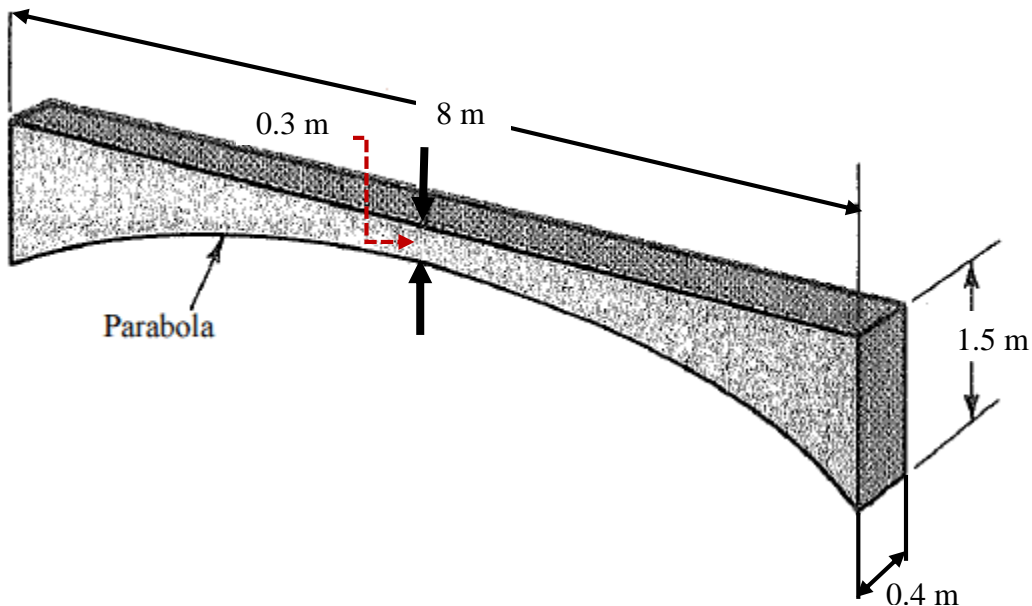
## Engineering Models II: Homework #7

For each of these problems include all of your work, your MATLAB commands, and results. Be sure to include units in your answers!

**Problem 1:** The figure below is a sketch of a deck of a ship which has the shape of two intersecting *parabolic* curves. Find the area of the deck. *Be sure to indicate where you chose your origin (0,0) to be in the figure!*



**Problem 2:** The figure below represents a concrete roof beam for an auditorium. It has a straight top edge and a *parabolic* lower edge. Find the volume of concrete in the beam. *Be sure to indicate where you chose your origin (0,0) to be in the figure!*



**Problem 3:** The diagram below is of an odd-shaped window. The top of the window is a *parabola* and the bottom of the window is a portion of a *circle* with a radius of 10ft. Find the area of the glass. *Use the origin indicated in the diagram.*

