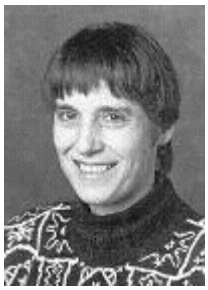
“Mean” Jean Taylor



(The Baddest Bubble Blower this side of Boone)

Biography:

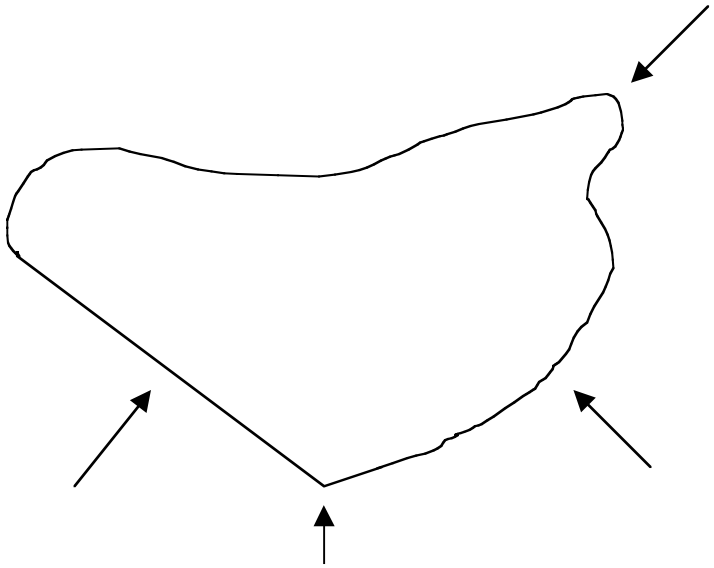
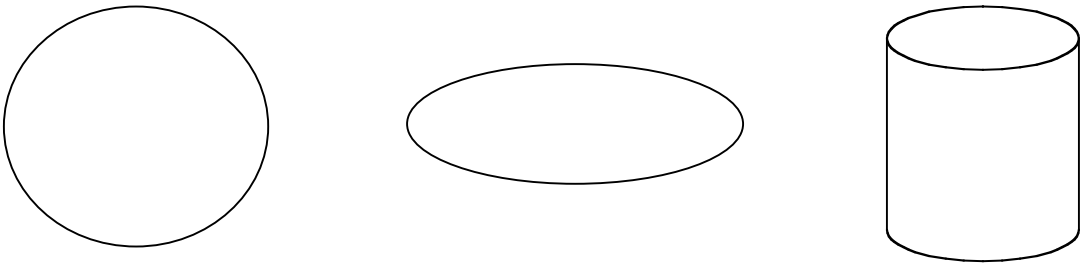
Jean Taylor was born in San Mateo, California on September 17, 1944. She later moved to Sacramento. As a child she excelled in her academics. After high school she enrolled in Mount Holyoke in Mass. because she had never been east of the Rocky Mountains. She majored in chemistry and graduated Phi Beta Kappa, first in her class in 1966. Taylor, however, through her rebellious childhood, learned to question authority and was not able to do so in the chemistry laboratory at Mount Holyoke. This began to inspire her exploration into other fields of study, but she still had a love for chemistry. She later enrolled in the University of California at Berkley where she was influenced by her hiking club and her boyfriend to audit algebraic topology and differential geometry. These courses encouraged her to switch her emphases to mathematics but yet she still received her master’s degree in physical chemistry in 1968. Later, she moved to England shortly after her wedding of her long-time boyfriend, Frederick J. Almgren. Here, she pursued her master’s degree in mathematics at the University of Warwick and graduated in 1971.

Soon after, she returned to the U.S. and attended Princeton’s doctoral program in mathematics. In 1973 she received her PhD. and focused her dissertation on the topic of “Regularity of the Singular Set of Two-Dimensional Area-Minimizing Flat Chains Modulo 3 in R^3.” This solved the problem on length and smoothness of soap-film triple functions curves, which had puzzled mathematicians for centuries.

Problems:

1.) Jean Taylor was born in _____, California, on September 17, 1944.
2.) She received her undergraduate degree in _____ from _____.
3.) Taylor acquired her Master’s degree from what country? _____?
4.) She gained her PhD. from this collage that no-one here will probably ever get into? _____

Explain the curvature in each of the indicated points. (For example, is the curvature large, small, infinite, or zero?)



Now let's see what all the hype is about for this "Mean" Jean. Jean Taylor worked with mean curvature. Try and explain the mean curvature of at least two points on these arbitrary surfaces: (note: the first and second objects are 3 space)