

1014-W1-207      **Thomas A. Hern\*** ([hern@wcnet.org](mailto:hern@wcnet.org)), Dept of Mathematics and Stat., Bowling Green State U,  
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I have used these two problems in calculus I for about 20 years.

The first is to maximize the volume of a real cardboard box, like Underwood Dudley displayed in his talk about calculus texts. A key observation reveals that this is surprizingly a single variable problem. It has a relatively easy, but not trivial, solution. I ask my students to actually make such a box from an index card I give them.

The second problem was picked up from an oral exam in computer science. The problem is to maximize the storage on a computer disk. Some assumptions need to be discussed. The solution is easy, but requires some careful thought to model. (Received August 21, 2005)