Week 24  (2/24/03)

Verifying weights

(a) You have a balance scale and wish to verify the weights of items that come in weights from 1 to 121 (all integral). What is the minimum number of fixed weights you need? What are the weights?

(b) Using $n$ wisely-chosen fixed weights, what is the largest integer $W$, for which you can verify all the integral weights less than or equal to $W$? What fixed weights should you choose?