Simplify the Problem

(102) (Tower of Hanoi) Six disks are all stacked on pole A with each disk smaller than the one right below it. No disks are stacked on poles B and C. Move the disks to pole C, stacked in exactly the same order while observing the following restrictions.
(a) Only one disk may be moved at a time.
(b) The disk being moved must be moved from one pole to another; it may not be temporarily placed elsewhere.
(c) No disk may ever be placed on top of a smaller disk.

(103) What is the minimum number of weights needed to be able to weigh all objects with integral weights up to 32 using a balance scale?

(104) Twenty-four coins all look alike. With the exception of one counterfeit coin, they are all made of gold and weight exactly the same. Using a balance scale, what is the minimum number of weighings you must make in order to locate the bad coin?

(105) Consider ten stacks of ten gold pieces each, with each gold piece weighing two ounces, except for one stack which contains ten counterfeit coins weighing one ounce each. Using a bathroom type scale, determine which is the counterfeit stack with a single weighing.

(106) What is the minimum number of weights needed to be able to weigh all objects with integral weights up to 32 using a balance scale if all the weights must be placed on the same side of the scale?

(107) Nine men and two boys, trekking through the jungle, need to cross a river. They have a small boat they can row across, but the boat can hold no more than one man or the two boys. How can they all get across?

(108) 137 Players are to play in a tennis tournament in which the knock-out principle is used. If a player loses, he is out. The organizers may make any arrangement they deem fit in order to deal with unpaired players. How many games are required in order to decide a winner?

(109) (Flipping Coins) A bunch of coins are lying on a table, some heads up and some facing tails. Is it possible to get them all facing heads up by flipping two coins at a time?

(110) (Lockers) A high school with one thousand students has one thousand lockers, which are all closed. The first student goes to each locker and opens each one. The second student then goes to every second locker and closes each of those. The third student then goes to every third locker and closes the ones which are open but opens the ones that are closed. This continues for all the students in turn, with the $n^{th}$ student going to each $n^{th}$ locker and closing the ones which are open but opening the ones that are closed. How many lockers are open after the last student has finished?