

# Homework 6 Rallods in Rednow Land

The ruler of Rednow Land had a very wise advisor who had saved the country in various ways (such as finding counterfeiters of gold coins). The ruler wanted to reward this wise person.

The ruler loved to play chess and so came up with two choices of rewards for the wise advisor.

- Choice A: A billion rallods (a rallod is the coin of Rednow Land)
  - Choice B: The amount of money obtained by putting 1 rallod on one square of the chessboard, 2 rallods on the next, 4 on the next, 8 on the next, and so on until all 64 squares were filled
1. What does your intuition tell you about which would be the better choice?
  2. Now make a decision based on the results of computation. Explain your decision.
  3. The standard chessboard has 64 squares. How many squares would be needed to make Choice B as close as possible to Choice A? Explain your reasoning.

*Historical note:* This assignment is an adaptation of a problem that can be traced to Persia in about the seventh century and that may have originated even earlier in India.

