

CHAPTER 10 - POWERS

1. A LITTLE STORY

A young technician went to a company for a job interview. The manager was impressed by the young man's skills and offered him a six-month contract at a net monthly salary of 3 400 euros. The technician thought about it for a few moments, then said:

"I'd like to work for your company for six months but the figure of 3 400 euros doesn't seem reasonable to me."

The manager was a little surprised, believing that he had made him a rather attractive offer.

"OK, how much do you want then?"

The technician considered for a moment:

"Give me 1 euro for the first week, then 2 euros the second week and each week continue multiplying my salary by 2, up to the end of the 6 months."

The manager burst out laughing:

"Is that all? Fine. Let's sign the contract!"

The contract was signed and the two men went their separate ways, each thinking that he'd got a good deal.

2. A MATTER OF POWER

Let's suppose that you have two euros in your pocket and that this is your lucky day. You decide to play heads or tails with your two euros. If the coin falls heads, you win twice your original stake. If the coin falls tails, you lose your stake.

Each time you win, you decide to bet everything you have in your pocket, ie your original two euros plus the winnings from the previous throws. If you win three times in a row, in your pocket you'll have:

- after the first throw: 2×2 euros
- after the second throw : $2 \times 2 \times 2$ euros
- after the third throw: $2 \times 2 \times 2 \times 2$ euros