

**BACCALAURÉAT GÉNÉRAL ET TECHNOLOGIQUE  
ÉPREUVE SPÉCIFIQUE DES SECTIONS EUROPÉENNES  
MATHÉMATIQUES – ANGLAIS**

**SUJET 16**

**Thème : Sequences**

**Ce sujet comporte 1 page. L'usage de la calculatrice est autorisé.**

Many people dream of becoming millionaires these days. In order to make this dream come true, people play the stock market, play the lottery, and appear on television game shows designed for this purpose. Counting on the stock market requires placing money at risk and playing the lottery involves playing against the odds. And honestly, the television programs place contestants in the risky position of looking foolish by missing an easy question in front of millions of viewers.

1. Explain what the text deals with and comment on it.

Let us examine a plan for earning a million dollars based on a contract between an employee and an employer. After all, this way sounds like a respectable method -- working for your wages. First let us agree upon a contract.

2. Exercise

**Points of Agreement**

1. The employee will work 5 days a week.
  2. The employee will get a weekly salary each Friday.
  3. The employee will be hired for a minimum of 30 work days.
  4. The salary schedule is as follows:
    - The base salary for Day 1 is one penny.
    - Each subsequent day, the salary is the double of that of the previous day.
- a) Does it look like a good deal for the employee? Explain why.
  - b) Work out the salary earned each day of the first week and the total for the week.
  - c) What kind of sequence is this situation related to? Explain.
  - d) Calculate the salary earned the 30<sup>th</sup> day.
  - e) Calculate the total salary of the employee during the first 30 days.
  - f) What percentage of the total salary (after 30 days) was earned in week one?