

## Subject n°6

**Please, don't write on the exam paper.**

### **Exercise 1**

A company wants to recruit people to work for a 10-month period and offers two different types of pay scheme.

**Scheme A:** Starting the first month with a salary of £ 1,000, then with a monthly increase of £ 100.

**Scheme B:** Starting the first month with a salary of £ X, then with a 10 % monthly increase.

Find X so that the total paid in both schemes is the same.

### **Exercise 2**

Multiple-Choice Question

Let  $f$  be twice differentiable on  $[a; b]$ .

If  $g$  is an antiderivative of  $f''$  on  $[a; b]$ , then  $g'(x)$ , for all  $x \in [a; b]$ , must equal:

Answer A:  $f(x)$

Answer B:  $f'(x)$

Answer C:  $f''(x)$

Answer D:  $f(x) + k$  for some  $k$  not necessarily 0

Answer E:  $f''(x) + k$  for some  $k$  not necessarily 0

**Vocabulary:** *Antiderivative* is synonymous with *primitive*.