



Datos personales

Apellidos:	
Nombre:	
Firma:	
Controlado	

Número de matrícula

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0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0
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9	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9

Este campo no se debe modificar.		<b>Scrambling</b>
		<input type="checkbox"/> 0 <input type="checkbox"/> 0
Tipo	Identificación del examen	
<input type="text" value="005"/>	<input type="text" value="18010800001"/>	

Marque de una forma clara. Ejemplo:  No marcado:  o

Este examen será corregido por un sistema automatizado, por lo que no se ha de arrugar, doblar ni ensuciar la hoja. Para marcar, por favor use un **bolígrafo azul o negro**.

**Solo las marcas legibles y bien posicionadas serán evaluadas.**

Respuestas 1 - 3

	a	b	c	d	e
1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	a	b	c	d	e





1. What is the derivative of  $f(x) = x^9 e^{3.8x}$ , evaluated at  $x = 0.72$ ?
  - (a) 10.83
  - (b) 10.03
  - (c) 13.07
  - (d) 16.26
  - (e) 9.83
  
2. A machine fills milk into 1000ml packages. It is suspected that the machine is not working correctly and that the amount of milk filled differs from the setpoint  $\mu_0 = 1000$ . A sample of 237 packages filled by the machine are collected. The sample mean  $\bar{y}$  is equal to 934.2 and the sample variance  $s_{n-1}^2$  is equal to 1620.77.

Test the hypothesis that the amount filled corresponds on average to the setpoint. What is the value of the  $t$  test statistic?

  - (a)  $-58.452$
  - (b) 48.048
  - (c) 26.393
  - (d) 63.801
  - (e)  $-25.162$
  
3. What is the seat of the federal authorities in Switzerland (i.e., the de facto capital)?
  - (a) Zurich
  - (b) Lausanne
  - (c) Bern
  - (d) Geneva
  - (e) Basel



