

### EXAMEN PROPORCIONALIDAD Y ESTADÍSTICA - 3º ESO

**Exercise 1: (1.25 points)** Fill in the gaps in the following tables knowing that the magnitudes involved are:

a) Directly proportional

|    |   |   |    |    |    |
|----|---|---|----|----|----|
| 10 |   | 7 | 15 |    | 35 |
|    | 6 | 2 |    | 20 |    |

b) Inversely proportional

|   |     |   |     |    |    |
|---|-----|---|-----|----|----|
|   | 7   | 8 |     | 30 |    |
| 4 | 1.5 |   | 9.5 |    | 20 |

Find also the value of the constant of proportionality  $k$  in each case.

**Exercise 2: (1.25 points)** Split €2450 in a directly proportional way to 3, 5 and 6.

**Exercise 3: (1.25 points)** Split €78000 in an inversely proportional way to 2, 5 and 6.

**Exercise 4: (1.25 points)** Seventeen workers need to work eight hours a day for a week in order to assemble eight hundred and fifty TV sets. How many hours a day will they have to work next week if we have an order for one thousand TV sets and we hire three more workers?

**Exercise 5: (1 point)** Clasifica las siguientes variables aleatorias:

- Cantidad de sobrasada que me pongo cada mañana en la tostada
- Número de neuronas funcionales que me quedan en el cerebro
- Bebida que pido cuando me quedo a comer en el bar porque tengo tutoría
- Número de asistentes al Betis-Barça la semana que viene

**Exercise 6: (2 points)** Given the following table showing the values and frequencies of a certain random variable

|       |   |   |   |   |   |
|-------|---|---|---|---|---|
| $x_i$ | 0 | 1 | 2 | 4 | 5 |
| $f_i$ | 5 | 8 | 6 | 8 | 3 |

Work out:

- The percentage corresponding to each value of the variable
- The measures of central tendency
- Pearson's coefficient of variation
- The bar diagram, the histogram and the frequency polygon

**Exercise 7: (2 points)** Given the following table showing the values and frequencies of a certain random variable

|       |       |       |        |         |
|-------|-------|-------|--------|---------|
| $x_i$ | [0,4] | (4,8] | (8,12] | (12,16] |
| $f_i$ | 6     | 9     | 4      | 3       |

Work out:

- The mode
- The measures of dispersion
- The bar diagram, the histogram and the frequency polygon