# EXAMEN PROPORCIONALIDAD Y ESTADÍSTICA - 3° 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:
   a) Cantidad de sobrasada que me pongo cada mañana en la tostada
   b) Número de neuronas funcionales que me quedan en el cerebro
   c) Bebida que pido cuando me quedo a comer en el bar porque tengo tutoría
   d) 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:
   a) The percentage corresponding to each value of the variable
   b) The measures of central tendency
   c) Pearson's coefficient of variation
   d) 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:
   a) The mode
   b) The measures of dispersion
   c) The bar diagram, the histogram and the frequency polygon