

### PROPORTION AND STATISTICS TEST - 3º ESO

**Exercise 1: (1.5 points)** Determine if the following tables correspond to magnitudes directly or inversely proportional, fill in the gaps and find the values of the constants of proportionality

2	5		0.5	10	15	
	12	1		6		3

6	3			12	20	
9		12	15	18		0.75

**Exercise 2: (1.25 points)** The price of a house has increased by 12% this last year. If the price is €90.000

- What was the original price of the house?
- I have to pay 21% of VAT and then pay 7.5% of interest to the bank. What's the final price of the house?

**Exercise 3: (1 point)** Split €600 in an inversely proportional way to 2, 5 and 6.

**Exercise 4: (1.25 points)** Twenty workers need to work eight hours a day for nine days to finish a job. How many hours a day would fifteen workers have to work to finish the same job in twenty days?

**Exercise 5: (1 point)** Quiero estudiar la tasa de mortalidad (en porcentaje) entre los rebaños de ovejas de la sierra. Para ello le he pedido a un pastor que haga un seguimiento de sus animales durante un año y anote cuántos de ellos la han palmado. Digo, han fallecido. Sniff, sniff. Clasifica la variable aleatoria e indica la población y la muestra. ¿Crees que es significativa? ¿Por qué?

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

$x_i$	0	4	7	10	20
$f_i$	5	2	3	4	7

Work out:

- The percentages
- The range and the standard deviation
- Do you think that I should repeat the study? Why?

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

$x_i$	[0,3]	(3,6]	(6,9]	(9,12]	(12,15]
$f_i$	7	4	7	3	6

Work out:

- Classify the variable
- The measures of central tendency
- Pearson's coefficient of variation
- The frequency polygon