

### PROPORTION AND STATISTICS TEST - 3º ESO

**Exercise 1: (1.25 point)** How many kilos of dark chocolate bonbons that cost 12€/kg must be mixed with 2 kg of milk chocolate bonbons that costs 9.5€/kg to make a mixture of chocolates that costs 11€/kg?

**Exercise 2: (1.25 point)** Split €2175 in an inversely proportional way to 3, 5 and 9

**Exercise 3: (1.25 point)** The North Express train that takes elves to work can cover a distance of nine thousand two hundred and forty km in three days when travelling at a speed of two hundred kilometers per hour. How long would it take it to cover a distance of eleven thousand and eighty-eight kilometers if it travels at a speed of one hundred and eighty kilometers per hour?

**Exercise 4: (1.25 points)** I want to buy a Christmas present on the Internet and I've been monitoring its price for two weeks. The initial price was 24.95€, but it increased by 17% next week. Then there was a discount of 25% and I discovered that if I order from my phone I get another 5% discount.

- What will the final price be?
- What's the final percentage discount?

**Exercise 5: (1 point)** I want to know if people from Córdoba are spending Christmas away from the city, so I've gone to the train station and I've asked 200 passengers about their plans for the holidays. Classify the random variable, indicate the population and the sample and tell me if my sample is a representative one.

**Exercise 6: (2.25 points)** Given the following table showing the values and frequencies of a certain random variable

$x_i$	1	2	4	5	6
$f_i$	9	2	3	5	8

- Classify the variable (0.25)
- Find the percentage corresponding to each value of the variable (0.5)
- Find Pearson's coefficient of variation (1)
- Plot the frequency polygon (0.5)

**Exercise 7: (1.75 points)** The height of elves, in feet, is given by the following table:

$x_i$	[0,2]	(2,4]	(4,6]	(6,8]
$f_i$	17	28	41	14

- How many elves did I ask for my survey? (0.25)
- Find the range (0.25)
- Find the measures of central tendency (0.75)
- Plot the bar diagram, the histogram and the frequency polygon (0.5)

