



FIRST TERM GLOBAL TEST - 3º ESO



Exercise 1: (2.25 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	9	6	2	4

Work out:

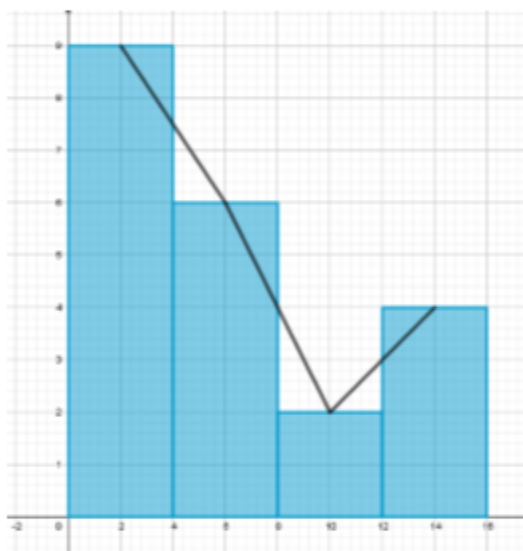
a) Classify the variable **Quantitative continuous**

b) Work out the measures of central tendency

$$Mo = [0,4] \quad Me = (4,8] \quad \bar{x} = 6.19$$

c) Find Pearson's coefficient of variation **$CV = 0.73$**

d) Plot the histogram and the frequency polygon



Exercise 2: (1.75 points)

a) Now that Christmas is getting near, all the stores are offering a lot of promotions. I've found a hand warmer that I am planning to buy. The original price was 39.95€ but first it got a 15% discount and now another additional 20% off. What's its final price? **27.17 €**

b) A factory that works 12 hours a day can produce 105000 tablets of Turrón de Jijona in 5 days. How many tablets could they produce in a week if they work for 15 hours every day?
183750 tablets

Exercise 3: (1.25 points) Work out:

a) $3.84 \cdot 10^{-3} - 4.39 \cdot 10^{-2} + 5.17 \cdot 10^{-4} = -3.95 \cdot 10^{-2}$

b) $(4.25 \cdot 10^{-3}) : (7.29 \cdot 10^{-7}) = 5.83 \cdot 10^3$

c) $(9.82 \cdot 10^{-3}) \cdot (7.32 \cdot 10^{-7}) = 7.19 \cdot 10^{-9}$



Exercise 4: (0.75 points) The Guadalquivir River is 657 km long. Find the percentage error if I round it to 650 km. $E_p = 1.07\%$

Exercise 5: (0.75 points) Divide 3040€ in an inversely proportional way to 2, 7 and 9

$$x = 2016\text{€} \quad y = 576\text{€} \quad z = 448\text{€}$$

Exercise 6: (2.25 points) Work out, extract factors and express as a single root when possible:

a) $\sqrt[7]{a^{-5}} \cdot \sqrt{a} : \sqrt[5]{a^{-2}} = \sqrt[70]{a^{13}}$

b) $\sqrt{32} - 3\sqrt{128} + 5\sqrt{162} = 25\sqrt{2}$

c) $\frac{\sqrt[5]{x^3 y^{-7}} \cdot \sqrt[3]{x}}{\sqrt{xy^{-1}}} = \sqrt[30]{\frac{x^{13}}{y^{27}}}$

Exercise 7: (1 point) Work out and express as inequalities too:

a) $(-2, 0] \cup (-1, 7] = (-2, 7] \rightarrow -2 < x \leq 7$

b) $[-7, 4] \cap (-2, 4) = (-2, 4) \rightarrow -2 < x < 4$

