



FIRST TERM GLOBAL TEST

3° ESO



Exercise 1: (2.25 ptos) Given the following table representing a random variable:

x_i	[0,2]	(2,4]	(4,6]	(6,8]
f_i	10	13	7	5

- Find the range and the median
- Find Pearson's coefficient of variation
- Plot the frequency polygon

Exercise 2: (2.25 points) Given the following table showing the values and frequencies of a certain random variable

x_i	1	2	3	4	5
f_i	9	6	8	10	4

- Find the percentage corresponding to each value of the variable
- Find the measures of central tendency
- Plot the bar diagram and the histogram

Exercise 3: (2.5 ptos) Work out and write as a single radical if possible:

a) $\sqrt[5]{a^{-4}} \cdot \sqrt{a} : \sqrt[3]{a^{-2}} =$ (0.5)

b) $\frac{\sqrt[7]{x^{-4}y^5} \sqrt{y^{-1}}}{\sqrt[10]{x^3y^{-9}}} =$ (1)

c) $5\sqrt{300} - \sqrt{432} + 3\sqrt{75} =$ (1)

Exercise 4: (1 pto) Find these unions and intersections of intervals and **write them as inequalities too**:

a) $[-4, 2] \cup [-3, +\infty) =$

b) $(-\infty, 0) \cap [-1, +\infty) =$

Exercise 5: (1 pto) The price of olive oil rocketed during these past three years. First, it increased by 40%, next year it increased by 35% and then it increased again by 50%. But now, thanks to the rain that fell during these past months, it has decreased by 30%

- What's the final percentage change?
- If the original price of a liter of olive oil was of 3.5€, what was the maximum price it reached?
- What's the price now?

Exercise 6: (1 pto) We need fifteen ovens working ten hours a days to roast 7500 kg of coffee. How much coffee could we roast with twenty ovens working for fourteen hours a day?

