FIRST TERM GLOBAL TEST

3º ESO

Exercise 1: (2.75 ptos) Work out, express as a single radical and simplify if possible:

a) $\sqrt[3]{x^5} : \sqrt[7]{x^{-3}} \cdot \sqrt{x^{-7}} =$ (0.75)

b) $\dfrac{\sqrt[5]{a^2 b^{-3}}\sqrt{a^{-1}}}{\sqrt[3]{a^{-4} b}} =$ (1)

c) $\sqrt{80} - 3\sqrt{108} - 7\sqrt{192} =$ (1)

Exercise 2: (1 pto) Divide 5800€ in an inversely proportional way to 3, 5 and 9

Exercise 3: (1.5 ptos) Find these unions and intersections of intervals and **write them as inequalities too:**

a) $(-4,0] \cup [-2,+\infty) =$

b) $(-7,2) \cap [0,9] =$

c) $(-3,0] \cap [0,2) =$

Exercise 4: (2.75 ptos) Given the following table representing a random variable:

x_i	$[0,4]$	$(4,8]$	$(8,12]$	$(12,16]$
f_i	12	19	20	9

a) Classify the variable

b) Find the measures of central tendency

c) Find Pearson's coefficient of variation

d) Plot the frequency polygon

Exercise 5: (1 pto) I've bought shares from a company with a value of 3000€. The first year their price increased by 5%, and the second year they increased again by 7.25%, but these past two years they've lost a 8.5% each year. How much money do I have now?

Exercise 6: (1 pto) Thirty gnomes working non-stop need four hours and a half to prepare chocolate milk for the 1200 children who are visiting Santa today. How many hours will twenty-five gnomes have to work tomorrow if 1750 children are expected to go for a visit? Round the answer to hours, minutes and seconds.