FIRST TERM GLOBAL TEST

2º ESO

Exercise 1: (1 pto) Given the following table representing two inversely proportional magnitudes, fill in the gaps and find the value of the constant k:

2	6	12	24		
		3		0.8	9

Exercise 2: (1.5 points)

a) Divide 375€ in a directly proportional way to 3, 5 and 7

b) $5-3\cdot\sqrt{17-1}-(-1)^6+3\cdot 2^3=$

Exercise 3: (2.25 ptos) Work out:

a) $\left(x^{-2}\cdot x^{-5}\right):\left(x^3\cdot x\right)=$

b) $\left(a^5\right)^{-2}:\left(a^3:a^7\right)=$

c) $\left(w^2:w^{-3}\right)\cdot\left(w:w^9\right)=$

d) $\dfrac{x^3\cdot y^4\cdot x^{-7}}{y^{-5}\cdot x\cdot y^2}=$

Exercise 4: (1.5 ptos) Write the following numbers using scientific notation:

a) $34\,756\,902\,479\,000\,000\,000=$

b) $0.000\,000\,000\,000\,007\,496\,654=$

c) $748723\cdot 10^{-2}=$

d) $0.000\,621\,493\cdot 10^{-9}=$

Exercise 5: (1.25 ptos) Find the value of these roots:

a) $\sqrt[7]{\dfrac{a^{-42}v^{-14}}{e^{21}}}=$

b) $\sqrt[4]{16\,000\,000\,000\,000}=$

c) $\sqrt{2025}=$

Exercise 6: (1.5 ptos)

a) Extra virgin olive oil costs now 5.45€/l in a famous supermarket, what represents an increase of 30% on the price two weeks ago. Find the original price of a liter of oil.

b) Thirty elves working at full speed are able to wrap half a million presents. How many elves do we need to wrap 432827 presents?

Exercise 7: (1 pto) **Classify** the following rational numbers and then turn them into fractions:

a) $12.327=$

b) $4.2\overline{79}=$

c) $2.\overline{9845}=$