



PROPORTION AND RATIONAL NUMBERS TEST

2° ESO



Exercise 1: (1.5 ptos) Write the following numbers using scientific notation:

- The diameter of the Solar System, twelve thousand million kilometers
- The mass of a neutron $0.000\,000\,000\,000\,000\,000\,000\,001\,674\,927\,498\,04$ kg
- $24591.49 \cdot 10^{-3} =$
- $0.00007891 \cdot 10^{-9} =$

Exercise 2: (1.25 ptos) The salary of a reindeer is of 35.25 gold coins a month, while an elf gets 27.5 gold coins every month and a gnome earns 26 gold coins, every month too.

- Find the total amount of money that Santa has to pay if he has hired seven reindeers, seventeen elves and twelve gnomes and he will have them working for two months so they will all be ready for Christmas (in case the night confinement is lifted and we can all get our presents).
- Last year he managed to save 2000 gold coins. Will it be enough? If the answer is no, suggest some kind of solution.

Exercise 3: (1.5 ptos) Fill in the gaps in these tables and find the value of the constant of proportion, knowing that they are:

- a) Directly proportional

5	1	64	72	3.2	1.5
			9		

- b) Inversely proportional

30	45	9	180	5
		10	1.5	

Exercise 4: (1 pto) Divide 448€ in a directly proportional way to 2, 5 and 7

Exercise 5: (1.5 ptos) Classify the following decimal numbers and the turn them into fractions:

- $1.\overline{2937} =$
- $0.122333 =$
- $4.1020304050 \dots =$
- $3.\overline{75} =$

Exercise 6: (1.25 ptos) My dinosaur is really hungry and she has seen a gazelle at the other side of the valley. Running at a speed of 8 km/h she needs 5 minutes to catch it:

- How long would it take if she runs at 10 km/h
- What should her speed be to get the gazelle in just 3 minutes? Round the answer to the nearest hundredths

Exercise 7: (1 pto) The price of vegetables has increased by 12% due to the coronavirus crisis. If a kilo of tomatoes costs now one euro and forty cents, what was the price before?

Exercise 8: (1 pto) A village has 2500 inhabitants and each one of them recycles 0.6 kg of glass a month.

- How much glass will they recycle in a year, in total?
- In order to recycle a total of 20000 kg a year, how much glass should each inhabitant recycle?

