



FRACTIONS AND RATIONAL NUMBERS TEST

2° ESO



Exercise 1: (1.4 ptos) Classify the following decimal numbers and then turn them into fractions:

a) $1.34\overline{759} = \frac{134625}{99900}$ mixed repeating

b) $5.\overline{932} = \frac{5927}{999}$ pure repeating

c) $0.101214161820 \dots =$ I can't, irrational

d) $32.323232 = \frac{32323232}{1000000}$ terminating

Exercise 2: (1.6 ptos) Write the following numbers using scientific notation:

a) The weight of an ant, 1.5 mg, in kg $1.5 \cdot 10^{-6}$ kg

b) The distance from the Earth to Neptune, 4351400000 km, in meters $4.35 \cdot 10^{12}$ m

c) $452867.39 \cdot 10^{-3} = 4.53 \cdot 10^2$

d) $0.000002877 \cdot 10^{-5} = 2.88 \cdot 10^{-11}$

Exercise 3: (1.25 ptos) I am preparing a huge fruit salad as a Christmas dessert. I've bought half a kilo of apples, 2.30€/kg, 750 grams of oranges, 1.4€/kg, one and a half kilos of bananas, 1.8€/kg and two kilos of kiwis. If I've paid a total of 10.2€, what's the price of a kilo of kiwis? **2.65€**

Exercise 4: (0.75 ptos) Round the following rational numbers:

a) 65.387571 to the nearest thousandth **65.388**

b) 2.835799 to the nearest hundred-thousandth **2.8358**

Exercise 5: (1.25 ptos) Each elf working as Santa's assistant has to wrap a total of 12500 presents for Christmas. If each one of them wrapped two fifths of the presents the first week, and two thirds of the remaining presents the second week, how many presents does each one of them still have to wrap?

2500 presents

Exercise 6: (1.5 ptos) Last June I presented myself with a "Teach yourself Turkish" book as a birthday present. Yeah, I am completely insane. During the summer I studied two sevenths of the book, and then one third of the remaining part. I've just found out that I still have one hundred and twenty pages left to study. How many pages does my book have? Should I change to Russian instead? **252 pages**

Exercise 7: (0.75 ptos) Find the value of x :

a) $\frac{9}{x} = \frac{6}{8} \rightarrow x = 12$

b) $\frac{5}{x} = \frac{x}{20} \rightarrow x = 10$

c) $\frac{4}{8} = \frac{x}{10} \rightarrow x = 5$

Exercise 8: (1.5 ptos) Work out:

a) $\left(1 + \frac{5}{7}\right)^{-1} \cdot \left(\frac{2}{3} - \frac{1}{2}\right)^{-2} - 2^{-1} = \frac{41}{2}$

b) $\left(\sqrt{\frac{5}{4} \cdot \frac{9}{5} - \frac{7}{3}}\right)^{-2} + \left(\frac{3}{2} \cdot \frac{1}{5}\right)^{-1} = \frac{34}{9}$

