



REAL NUMBERS, POWERS AND ROOTS TEST

3º ESO



Exercise 1: (1 point) I've bought a quarter of a kilo of pumpkin coffee for Halloween but when I got home and I weighed the package, the result was of 247 gr . Find the absolute, relative and percentage errors and tell me if I should go back to the store and ask them to return my money.

Exercise 2: (2 points) Study the following unions and intersections of intervals. Express them as **inequalities** too:

a) $(-3, 7) \cup [4, 9] =$

b) $[-3, 1) \cup (1, 5] =$

c) $(-\infty, -3] \cap (-5, 8] =$

d) $[-3, 0] \cap [0, +\infty) =$

e) $(-\infty, 1] \cap (2, +\infty)$

Exercise 3: (4.5 points) Work out, express as a single radical and simplify if possible:

a) $\sqrt[6]{x^{-5}} : \sqrt[4]{x^{-3}} =$ (0.75)

b) $\frac{\sqrt{t^{-1}} \cdot \sqrt[3]{t^{-7}}}{\sqrt[5]{t^2}} =$ (1)

c) $\frac{\sqrt[3]{a^{-2} \cdot b^5} \cdot \sqrt{a}}{\sqrt[5]{a^2 \cdot b^{-3}}} =$ (1.25)

d) $5\sqrt{448} - \sqrt{405} - 2\sqrt{500} - \sqrt{7} =$ (1.5)

Exercise 4: (2.5 points) Work out and simplify if possible:

a) $\sqrt[3]{373248} =$ (0.75)

b) $\sqrt[5]{\frac{a^{10}}{v^{-30}e^{-45}}} =$ (0.75)

c) $\sqrt[5]{\frac{x^{29}y^{-102}z^{40}}{w^{-32}}} =$ (1)

