REAL NUMBERS, POWERS AND ROOTS TEST - 3º ESO

Exercise 1: **(1 point)** Work out and simplify if possible:

a) $\sqrt{32400} =$

b) $\sqrt[7]{\dfrac{x^{12}\,y^{25}\,w^{-14}}{z^{-28}}} =$

Exercise 2: **(1 point)** Find the percentage error when rounding $\sqrt{5}$ to the nearest hundredths

Exercise 3: **(2 points)** Work out:

a) $2.97\cdot10^{6} - 9.39\cdot10^{5} + 3.42\cdot10^{7} =$

b) $7.15\cdot10^{-3} - 3.29\cdot10^{-5} + 7.32\cdot10^{-4} =$

c) $\left(4.12\cdot10^{7}\right):\left(9.42\cdot10^{3}\right) =$

d) $\left(2.39\cdot10^{-8}\right)\cdot\left(5.27\cdot10^{-4}\right) =$

Exercise 4: **(3.5 points)** Work out, express as a single radical and simplify if possible:

a) $5\sqrt{28} + \sqrt{63} - 3\sqrt{112} =$ (1)

b) $\sqrt[5]{x^{4}}\cdot\sqrt[3]{x^{-2}} : \sqrt[7]{x^{-1}} =$ (0.75)

c) $\dfrac{\sqrt[6]{2^{2}\cdot7^{-3}}\cdot\sqrt[5]{2^{-5}\cdot7^{4}}}{\sqrt{2\cdot7^{-2}}} =$ (1.25)

d) $b^{-7/2} : b^{2/5} =$ (0.5)

Exercise 5: **(1 point)** Classify the following numbers:

a) $\dfrac{7}{5}$ b) $\sqrt{25}$ c) $\sqrt{7}$ d) $\sqrt[3]{-27}$ e) $\sqrt[8]{-1}$

Exercise 6: **(1.5 points)** Study the following unions and intersections of intervals. Express them as inequalities too:

a) $[-2,0]\cup(-1,3) =$

b) $[-2,8]\cap(-2,5] =$

c) $(-7,1]\cap[1,+\infty) =$