POWERS AND ROOTS TEST - 2º ESO

Exercise 1: (0.75 points) I have a square field with a surface of 196 m^2.

a) How many meters of rope do I need to round it?

b) If every meter costs 8€, how much money do I need?

Exercise 2: (2.25 points) Work out:

a) $5+2\cdot\sqrt{29+7}-(\sqrt{81}-\sqrt{49})^3+3^2=$

b) $30:\sqrt{25}+5^2-(6-2\cdot 2)^3+(2^2)^3=$

c) $\sqrt{81}+2\cdot(\sqrt{12+4}-\sqrt{9})+6\cdot 2^2-\sqrt{100}:\sqrt{25}=$

Exercise 3: (1.25 points) Work out the value of these powers:

a) $(-5)^4=$

b) $-3^2=$

c) $1^8=$

d) $(-2)^{-4}=$

e) $\left\{\left\{\left[(5)^4\right]^7\right\}^5\right\}^0=$

Exercise 4: (3 points) Work out:

a) $3^2\cdot 5^3=$

b) $(a^5\cdot a^6):(a\cdot a^3)^2=$

c) $(5^2)^{-7}:(5^{10}\cdot 5^6)=$

d) $(y^7\cdot y^{-2}):(y^{-3}\cdot y^5)=$

e) $(42^8:7^8):(3^4\cdot 2^4)=$

f) $(x^8:x^{-5}):(x^{-15}\cdot x^2)=$

Exercise 5: (1.5 points) Work out:

a) $\dfrac{x^5\cdot y^3\cdot x^2\cdot y^4}{x\cdot y^2\cdot x^6}=$

b) $\dfrac{15^3\cdot 3^7\cdot 5^4}{25^2\cdot(3^2)^3}=$

c) $\dfrac{a^{-7}\cdot b^{11}\cdot a^{10}\cdot b^{-6}}{a^{-2}\cdot b^3}=$

Exercise 6: (1.25 points) Work out:

a) $\sqrt{12100\,000\,000\,000\,000}=$

b) $\sqrt[5]{5^{20}\cdot 3^{15}\cdot 2^{75}}=$

c) $\sqrt[4]{2560\,000\,000\,000\,000\,000}=$

d) $\sqrt{32400}=$