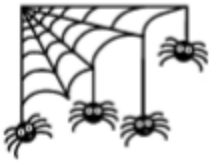

DIVISIBILITY, INTEGERS, POWERS AND ROOTS TEST - 2° ESO

Exercise 1: (1.5 points) Work out:

a) lcm $(98, 91) =$ b) hcf $(165, 264) =$ c) hcf $(81, 64) =$

Exercise 2: (0.75 points) A seagull is spending her morning soaring through the sky. Initially she is flying at an altitude of thirty-seven meters and then she goes down twenty-one meters and stays there for a while. After a few minutes she finds an upwards air current and elevates another thirteen meters. But she is getting tired and finally she goes down thirty meters. Where's the seagull now?

Exercise 3: (1 point) Work out:

a) $-2^4 =$ b) $\left(\frac{7}{3}\right)^{-2} =$ c) $(-1)^{18} =$ d) $5^{-1} =$

Exercise 4: (2 points) Work out the value of the following expressions:

a) $(5^2)^{-3} : 5^4 =$ b) $a^{-3} \cdot a^7 : a^{-4} =$

c) $(2^9 \cdot 2^5) : (2^{20} : 2^6) =$ d) $(x^{-2} \cdot x) : (x^{-1} \cdot x^{-3}) =$

Exercise 5: (1.25 points) Work out the value of the following expressions:

a) $\frac{x^5 \cdot y^{-8} \cdot x^{10}}{x^{-3} \cdot y^{-5} \cdot x^7} =$ b) $\frac{14^{-2} \cdot 2^5 \cdot 7^3}{49^{-3} \cdot 7^{-1} \cdot 2^7} =$

Exercise 6: (1 point) They say that it's going to be a very cold winter, so we are building a square ice skate rink in the high school courtyard. If the area of the rink is 1764 m^2

a) Find the length of each side.

b) A meter of wood fence costs 2.5€. What will the total price be?

Exercise 7: (1.25 points) Work out:

a) $\sqrt{5760000} =$

b) $\sqrt[3]{\frac{x^{-9} \cdot y^{12}}{z^{-6}}} =$

c) $\sqrt[5]{320\,000\,000\,000} =$

Exercise 8: (1.25 points) Work out the value of the following expressions:

a) $7 - 3 \cdot \sqrt{25} - 2 \cdot 3^2 + (-1)^3 =$

b) $2^3 \cdot 3^2 - \left(\sqrt{36} - \sqrt{16}\right)^3 - \sqrt{51-2} : (-7) =$