



**DIVISIBILITY, INTEGER NUMBERS, POWERS
AND ROOTS TEST - 2º ESO**



Exercise 1: (1 point) Work out:

- a) lcm (91, 98) =
b) hcf (64, 45) =

Exercise 2: (1 point) I've asked my gnomes to build a square pen for my four unicorns, and I need it to be big enough so they can also keep the safety distance. Just in case. If I can count with a surface of 5184 m^2 , how many meters of wood will I need?

Exercise 3: (1 point) Work out:

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

Exercise 4: (2.5 points) Work out the value of the following expressions:

- a) $(a^5)^{-2} \cdot a^{-10} =$
b) $(2^{-10} : 2^5) : (2^{-9} \cdot 2^{-6}) =$
c) $(b^{-1} : b^2) : (b^{-2} : b^{10}) =$
d) $(z^{-4} \cdot z^9) \cdot (z^{-2} \cdot z^{-6}) =$
e) $3 + 3^2 + 3^3 =$

Exercise 5: (1.5 points) Work out the value of the following expressions:

a) $\frac{x^8 \cdot y^{-5} \cdot x^{-7}}{y^4 \cdot x^3 \cdot y^{-8}} =$ b) $\frac{14^3 \cdot 7^{-5}}{49^{-4} \cdot 4^7} =$

Exercise 6: (1.5 points) Work out the value of the following expressions:

- a) $5 - 2 \cdot \sqrt{25} : (-5) - (1 - 3)^3 =$
b) $\sqrt{29 + 7} : 6 - (\sqrt{81} - \sqrt{64})^7 - 3^2 \cdot 2^3 =$

Exercise 7: (1.5 points) Work out:

- a) $\sqrt[3]{125\,000\,000\,000} =$
b) $\sqrt[7]{2^{35} \cdot 3^{14} \cdot 7^7} =$
c) $\sqrt[3]{\frac{a^{-9} \cdot e^3}{v^{-15}}} =$
d) $\sqrt{3969} =$

