



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



Exercise 1: (2.5 points) Work out the value of the following expressions:

a) $(x^3 \cdot x^{-5})^2 \cdot x^7 =$

b) $(y^6 \cdot y^{-8}) : y^{-5} =$

c) $(a^{-3} \cdot a) \cdot (a^{-9} \cdot a^4) =$

d) $(z^{-8} \cdot z^2) : (z \cdot z^7) =$

e) $2 + 2^2 + 2^3 =$

Exercise 2: (1.5 points) Work out the value of the following expressions:

a) $\frac{x^2 \cdot y^{-9} \cdot x^{-7}}{x^4 \cdot y^{-2} \cdot y} =$

b) $\frac{15^{-3} \cdot 3^5}{27^{-2} \cdot 25^5} =$

Exercise 3: (0.75 points) The Greek mathematician Archimedes was born on the year 287 BC and died on the year 212 BC. How old was he?

Exercise 4: (1 point) Work out the value of these powers:

a) $2^{-3} =$

b) $-5^2 =$

c) $(-2)^4 =$

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

Exercise 5: (1.75 points) Work out:

a) $\sqrt{3969} =$

b) $\sqrt[5]{3200000} =$

c) $\sqrt[3]{27\,000\,000} =$

d) $\sqrt[7]{\frac{a^{14} \cdot b^{-42}}{c^{-63}}} =$

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

a) $1 + 3 \cdot 5^2 - \sqrt{21+4} - (-2)^2 =$

b) $(\sqrt{64} - \sqrt{36})^3 - 3^2 - \sqrt{100} : (-2) =$

Exercise 7: (1 point) I'm gonna bake cookies for Halloween and I have a square tray where I can place a total of three hundred and twenty-four equal cookies, all ordered, no mess allowed. How many cookies are there on each side of the tray? If I want to sell each cookie for 0.75€, how much money will I get?

