

## NATURAL NUMBERS, DIVISIBILITY, POWERS AND ROOTS - 1º ESO

**Exercise 1: (1 point)** I have a flock with one hundred and seventy three sheep and I want to form the biggest possible square with them to shear them.

- How many sheep can I place on each side?
- How many sheep are left?
- Can I form another square with the sheep that have wool?
- Is there any sheep left for a stew?

**Exercise 2: (2.25 points)** Work out the value of the following expressions:

- $3^5 \cdot 3^7 : 3 =$
- $(x^6 : x^4) \cdot (x^3 : x) =$
- $(y^2)^5 : (y \cdot y^4)^2 =$
- $(30^7 : 5^7) : (3^4 \cdot 2^4) =$
- $\frac{3^5 \cdot 5^2 \cdot 3 \cdot 5^7}{3^2 \cdot 5^6 \cdot 3^3} =$

**Exercise 3: (0.75 points)** ¿De cuántas formas podemos repartir sesenta camisetas en montones iguales? Indícalas.

**Exercise 4: (1.5 points)** Work out:

- $\text{lcm}(52, 40) =$
- $\text{hcf}(120, 144) =$
- $\text{hcf}(30, 49) =$

**Exercise 5: (1 point)** Tours for Cazorla leave every thirty minutes and tours for Castril every forty five minutes. When do the tours leave at the same time?

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

- $2 + 3\sqrt{49} - (\sqrt{36} : 2)^2 + 1 + 2 \cdot (8 - 5)^2 - 1^{29} =$
- $\sqrt{81} + 2 \cdot (\sqrt{12 + 4} - \sqrt{9}) + 6 \cdot 2^2 - \sqrt{100} : \sqrt{25} =$

**Exercise 7: (0.75 points)** Determine if the numbers 45782, 72510 y 122133 are divisible by 2, 3, 5, 10 and 11

**Exercise 8: (0.5 points)** Round the following numbers using scientific notation:

- 45 781 300 000 to three significant figures
- 984 560 000 000 000 to two significant figures

**Exercise 9: (0.75 points)** Calcula el valor de x para que el número  $72x5$  sea divisible por

- 3
- 2
- 11