

ALGEBRA AND EQUATIONS TEST - 1º ESO

Exercise 1: (1 pto) Write the following statements using algebraic language:

- a) Four times a number minus seventeen
- b) The third part of a number
- c) The square of a number plus the cube of that number
- d) The product of three numbers

Exercise 2: (1 pto) Group together when possible:

- a) $3a + 2b - c + 5a - 4b - c =$
- b) $3(x^2 - 5) + 2(x + 3) =$

Exercise 3: (1 pto) Indicate the coefficient, the variable part and the degree of the monomials:

- a) $5x^3y^2z^7$
- b) uvw
- c) $a + b$
- d) $-t^3$

Exercise 4: (2.75 ptos) Solve the following equations:

- a) $4x - 9 = x + 6$
- b) $3x - 7 + 5x - 4 = 12x + 9 - x - 2$
- c) $2(x + 3) = 5(2x - 1)$
- d) $5x - 2(4x - 9) = 7 + 3(5 - x)$
- e) $4 + 2(x - 1) = 9x + 5(2 - x)$

Exercise 5: (1 pto) Solve the following equation:

$$\frac{3x-1}{2} - \frac{x-3}{5} = 1 + \frac{2x+7}{4}$$

Exercise 6: (1 pto) A toy unicorn costs three euro more than a toy sheep. I buy twelve unicorns and fifteen sheep and spend a total of 279€. What's the price of each toy?

Exercise 7: (1 pto) In a rectangle, the length of the base is 5cm less than the length of the height, and the perimeter measures 62 cm. Find the dimensions of the rectangle.

Exercise 8: (1.25 ptos) Evaluate the polynomial $P(x) = 7x^3 - 5x^2 - 9x + 1$

- a) when $x = 2$
- b) when $x = -1$