

**ALGEBRA TEST - 1º ESO - OPTION B**

**Exercise 1: (1.25 points)** Solve the following equations:

a)  $9x = 63$

b)  $\frac{x}{5} = 8$

c)  $\frac{3x}{2} = 18$

d)  $6x + 2 = 44$

e)  $17 - 5x = 8$

**Exercise 2: (2.5 points)** Solve the following equations:

a)  $3x - 5 + 4x = 10 - 3x + 5$

b)  $3(5x - 2) + 3(x - 5) = 9 - 7x$

c)  $5(7 - 3x) - (2x - 3) = 5x - 3(x - 4)$

d)  $4(x + 5) - 3(2x + 1) = 17 - 2x$

**Exercise 3: (1.25 points)** Work out the numerical value of the following polynomials:

a)  $P(x) = x^3 - 3x^2 + 8x - 1$  when  $x = 3$

b)  $Q(a, b) = 5ab + 2a - 3b$  when  $a = 2, b = -1$

**Exercise 4: (0.75 points)** The consecutive of a number plus ten, equals the double of that number minus fifteen. Find the number.

**Exercise 5: (1.25 points)** En un taller hay motos y coches. En total tenemos 45 vehículos y 142 ruedas. ¿Cuántos coches y motos hay?

**Exercise 6: (1 point)** Write the following statements with algebraic language:

a) The square of a number

b) The double of a number plus sixty

c) The half of a number minus the third part of that number

d) The sum of two numbers

**Exercise 7: (1 point)** Work out:

a)  $9x + 3x - x - x =$

b)  $4x^2 - 5x + 7 + x^2 - 3x + 9 =$

c)  $3x^2y - 2xy^2 + 7xy^2 - 6x^2y =$

**Exercise 8: (1 point)** Indicate the coefficient, the literal part and the degree of the following monomials:

a)  $-7a^4b^2c$

b)  $\frac{5}{4}xyz$

c)  $-2$

d)  $y^{-5}$