ALGEBRA AND EQUATIONS TEST

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) $5x^3 y^2 z^7$ 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 $x = -1$