LINEAR AND QUADRATIC EQUATIONS TEST
2° ESO

Exercise 1: (1 pto) Solve the following equations:

a) $5(2x-3)-(x-4)=4x-2(4x-1)$

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

Exercise 2: (1.25 ptos) Solve the following equations:

a) $\dfrac{3x-1}{2}-x=\dfrac{x-3}{5}-\dfrac{5x-7}{4}$

b) $\dfrac{9x-7}{4x+6}=\dfrac{8}{3}$

Exercise 3: (1 pto) Take out common factors:

a) $14x^7-21x^4+7x^3-42x^2=$

b) $25a^5b^3-5ab^2-15a^7b^2=$

Exercise 4: (1 pto) Expand using quadratic multiplication formulas:

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

Exercise 5: (2.5 ptos) Solve the following equations:

a) $14x^2+7x=0$ b) $25x^2-64=0$ c) $x^2-2x-15=0$

d) $x^2+6x+9=0$ e) $3x^2-11x+10=0$

Exercise 6: (1 pto) My seagull is pretty thin after her long journey back home, so I am going to the market to buy some fish for her. The price of a kilo of hake is 2€ more than the price of a kilo of sardines. If I buy three kilos of hake and five kilos of sardines, I will have to pay a total of thirty-four euro. What's the price of each product?

Exercise 7: (0.75 ptos) The length of the base of a rectangle is five centimeters longer than its height, and its area measures 36 cm^2. Find its dimensions.

Exercise 8: (1.5 ptos) Work out:

a) $(x-1)^2-5=3x-10$

b) $\dfrac{(x-2)^2}{4}=\dfrac{(x+3)^2}{9}$