

LINEAR AND QUADRATIC EQUATIONS TEST - 2º ESO

Exercise 1: (2.5 pts) Solve the following linear equations:

a) $2x - 5 - 9x + 2 = 3x - 4x + 7 - 5 + 6x$ (0.5)

b) $5(3x - 2) - 4(2x - 1) = 5x + 2(x - 3)$ (0.75)

c) $\frac{x - 5}{2x + 7} = \frac{3}{2}$ (0.5)

d) $\frac{3 - x}{5} - \frac{2x - 1}{3} = 1 - \frac{x + 1}{2}$ (0.75)

Exercise 2: (1 point) A toy sheep costs five euro less than a toy unicorn. I buy twenty unicorns and thirteen sheep and spend a total of 232€. What's the price of each toy?

Exercise 3: (2.5 points) Solve the following quadratic equations without using the formula:

a) $10x^2 - 5x = 0$

b) $x^2 + 17x = 0$

c) $x^2 - 81 = 0$

d) $4x^2 - 100 = 0$

e) $25x^2 - 16 = 0$

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

a) $x^2 + 9x + 14 = 0$

b) $x^2 - 12x + 36 = 0$

c) $x^2 - 2x - 15 = 0$

d) $2x^2 - 7x + 3 = 0$

e) $(x - 5)^2 = 2x - 2$

Exercise 5: (1.25 points) In a triangle the length of the base is three cm less than the length of the height, and the area is 14cm^2 . Work out its dimensions.