



## EQUATIONS TEST

### 2° ESO



**Exercise 1: (2 ptos)** Solve the following equations:

a)  $5x - (2x - 3) = 5(4x - 9) - x \rightarrow x = 3$  (0.5)

b)  $7(3x - 2) - 5(2x - 3) = 7x - 4(1 - x) \rightarrow$  No solution (0.75)

c)  $\frac{3x-1}{5} - \frac{x-3}{2} = 1 - \frac{5x+2}{4} \rightarrow x = \frac{-16}{27}$  (0.75)

**Exercise 2: (1 pto)** The price of a kilo of bananas is 3€ less than the price of a kilo of strawberries. If I buy 2 kilos of bananas and 4 kilos of strawberries I have to pay 21€. Find the price of each product.

**A kilo of bananas costs 1.5€ and a kilo of strawberries 4.5€**

**Exercise 3: (2 ptos)** Solve the following second degree equations without using the formula:

a)  $5x^2 + 10x = 0 \rightarrow x = 0, x = -2$

b)  $3x^2 - 75 = 0 \rightarrow x = \pm 5$

c)  $81x^2 - 49 = 0 \rightarrow x = \pm \frac{7}{9}$

d)  $12x^2 - 3x = 0 \rightarrow x = 0, x = \frac{1}{4}$

**Exercise 4: (2 ptos)** Solve the following second degree equations:

a)  $x^2 + 9x + 8 = 0 \rightarrow x = -1, x = -8$

b)  $x^2 - 2x - 15 = 0 \rightarrow x = -3, x = 5$

c)  $3x^2 + x - 10 = 0 \rightarrow x = -2, x = \frac{5}{3}$

d)  $x^2 - 8x + 16 = 0 \rightarrow x = 4$  double

**Exercise 5: (1 pto)** Expand using quadratic multiplication formulas:

a)  $(x-7)^2 = x^2 - 14x + 49$

b)  $(2y-3)(2y+3) = 4y^2 - 9$

c)  $(3x^5 - x^3)^2 = 9x^{10} - 6x^8 + x^6$

**Exercise 6: (2 ptos)** Solve the following equations:

a)  $\frac{x-2}{x} = \frac{3}{x+2} \rightarrow x = -1, x = 4$

b)  $(x-3)^2 - x = 2x - 11 \rightarrow x = 4, x = 5$

