

## SYSTEMS OF EQUATIONS TEST - 2º ESO

**Exercise 1: (3 ptos)** Solve and **classify** the following systems of equations using the substitution method:

- a)  $\begin{cases} 5x + 3y = 2 \\ x + 2y = 6 \end{cases} \quad x = -2, y = 4, \text{ consistent independent}$
- b)  $\begin{cases} 4x - y = 13 \\ 3x + 2y = 7 \end{cases} \quad x = 3, y = -1, \text{ consistent independent}$
- c)  $\begin{cases} 2x - 6y = 8 \\ 3x - 9y = 12 \end{cases} \quad \text{An infinite number of solution, consistent dependent}$

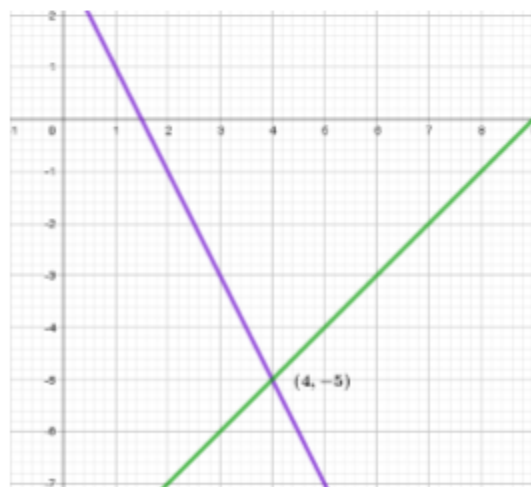
**Exercise 2: (1.75 ptos)** Solve and **classify** the following systems of equations using the elimination method:

- a)  $\begin{cases} 2x + 5y = 5 \\ 4x - y = -23 \end{cases} \quad x = -5, y = 3, \text{ consistent independent}$
- b)  $\begin{cases} 5x + 2y = 1 \\ 10x + 4y = 4 \end{cases} \quad \text{There is no solution, inconsistent}$

**Exercise 3: (1.75 ptos)** Solve using whatever method you prefer:

- a)  $\begin{cases} 4x + y = 2 \\ 2x - 3y = 5 \end{cases} \quad x = \frac{11}{14}, y = \frac{-8}{7}$
- b)  $\begin{cases} 5x - 4y = 15 \\ 2x - 3y = -1 \end{cases} \quad x = 7, y = 5$

**Exercise 4: (1.25 ptos)** Solve using the graphical method:  $\begin{cases} 2x + y = 3 \\ x - y = 9 \end{cases}$



**Exercise 5: (1.25 ptos)** My seagull went on a trip during the Easter holidays, she met a really smart, and handsome, he-seagull and it was love at first sight. They got married and had little seagulls!!

This time I am gonna feed them crabs, to celebrate the occasion. Before they started eating, I just had time to count a total of forty-one heads and three hundred and fifty-four legs (crabs and seagulls included). How many babies did my seagulls have?

Considering that a crab has ten legs, I have 34 crabs and 7 seagulls, so there are 5 baby seagulls

**Exercise 6: (1 pto)** Last week I went to the supermarket, I bought 4 bricks of milk and one kilo of strawberries and I had to pay a total of 5€. This week I had to go again in order to buy 12 bricks of milk and 2 kilos of strawberries. This time I was charged 13€. Since I've lost both tickets, could you tell me the price of each thing?

A brick of milk costs 0.75€, and a kilo of strawberries costs 2€

