



SYSTEMS OF EQUATIONS TEST 2° ESO



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

- a) $\left. \begin{array}{l} 2x + 3y = 6 \\ x + 5y = 17 \end{array} \right\} \rightarrow \boxed{x = -3} \quad \boxed{y = 4} \rightarrow \text{Consistent independent}$
- b) $\left. \begin{array}{l} 3x - y = 5 \\ 2x - 3y = 8 \end{array} \right\} \rightarrow \boxed{x = 1} \quad \boxed{y = -2} \rightarrow \text{Consistent independent}$
- c) $\left. \begin{array}{l} 3x + y = 5 \\ 6x + 2y = 7 \end{array} \right\} \rightarrow \text{There is no solution} \rightarrow \text{Inconsistent}$

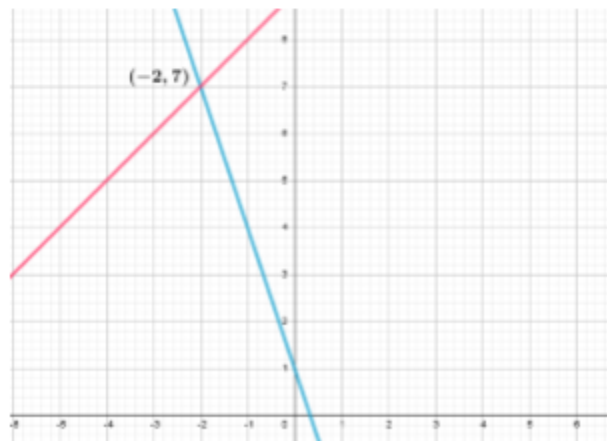
Exercise 2: (2 ptos) Solve and **classify** the following systems of equations using the elimination method:

- a) $\left. \begin{array}{l} 2x - y = 13 \\ 4x + 3y = 11 \end{array} \right\} \rightarrow \boxed{x = 5} \quad \boxed{y = -3} \rightarrow \text{Consistent independent}$
- b) $\left. \begin{array}{l} 2x + 6y = 8 \\ 3x + 9y = 12 \end{array} \right\} \rightarrow \infty \text{ solutions} \rightarrow \text{Consistent independent}$

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

- a) $\left. \begin{array}{l} 2x + 3y = -1 \\ 5x + 2y = 25 \end{array} \right\} \rightarrow \boxed{x = 7} \quad \boxed{y = -5}$
- b) $\left. \begin{array}{l} 4x - y = 3 \\ 3x - 5y = 7 \end{array} \right\} \rightarrow \boxed{x = \frac{8}{17}} \quad \boxed{y = \frac{-19}{17}}$

Exercise 4: (1.25 ptos) Solve using the graphical method $\left. \begin{array}{l} 3x + y = 1 \\ x - y = -9 \end{array} \right\}$



Exercise 5: (1 pto) If I buy three FFP2 face masks and two bottles of hydroalcoholic solution, I'll have to pay eight euro, but if I buy one FFP2 face mask and four bottles of hydroalcoholic solution, I'll have to pay eleven euro. What's the price of each product?

A face mask costs 1€, while a bottle of hydroalcoholic solution costs 2.5€

Exercise 6: (1 pto) In a village they got a total of 4500 vaccines, but some of them require one dose and the others require two doses. If they also received 7300 syringes, how many vaccines of each type did they get?

PS: Since you can use a syringe only once, the number of syringes equals the number of doses.

1700 one-dose vaccines and 2800 two-doses vaccines

