THIRD TERM GLOBAL TEST - 2° ESO

Exercise 1: (1.75 ptos) Solve and **classify** the following systems of equations using the substitution method:

a) $\left.\begin{matrix} 3x-5y=31 \\ x+3y=1 \end{matrix}\right\} \rightarrow \begin{matrix} \boxed{x=7} \\ \boxed{y=-2} \end{matrix} \rightarrow$ Consistent independent

b) $\left.\begin{matrix} 5x-y=1 \\ 10x-2y=2 \end{matrix}\right\} \rightarrow \infty$ solutions $\rightarrow$ Consistent dependent

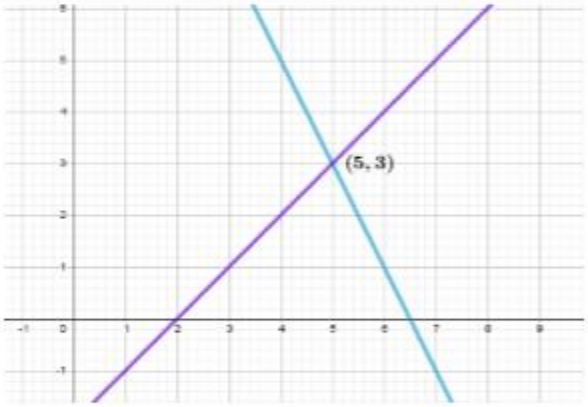
Exercise 2: (1.75 ptos) Solve the following systems of equations using the elimination method:

a) $\left.\begin{matrix} 3x-y=10 \\ 2x+5y=18 \end{matrix}\right\} \rightarrow \boxed{x=4} \quad \boxed{y=2}$

b) $\left.\begin{matrix} 3x+2y=1 \\ 4x-3y=2 \end{matrix}\right\} \rightarrow \boxed{x=7/17} \quad \boxed{y=-2/17}$

Exercise 3: (1 pto) Solve the following system of equations using the graphical method:

a) $\left.\begin{matrix} 2x+y=13 \\ x-y=2 \end{matrix}\right\}$

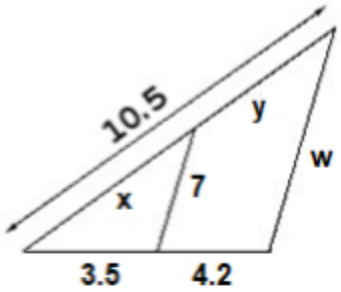


Exercise 4: (0.75 ptos) My ex-seagull has run away from me and now she wants to book some rooms in a hotel at the beach to spend the summer holidays with her whole family. If she books a double room and two triple rooms, she will have to pay 58€ a night, but if she books three double rooms and a triple room, she will have to pay 69€ a night. What's the price of each type of room?

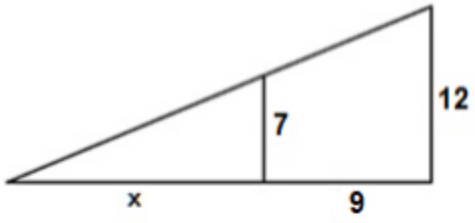
The price of a double room is of 16€ and the price of a triple room is of 21€

Exercise 5: (1.75 ptos) Find the values of the indeterminates:

a)



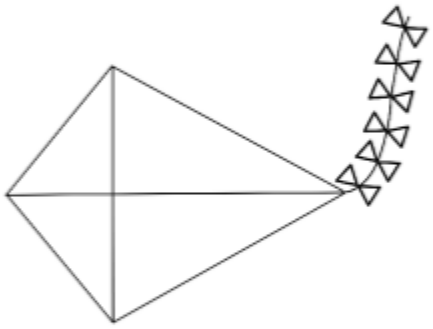
b)



$x = 4.77$ $y = 5.73$ $z = 15.4$ $x = 12.6$

Exercise 6: (1 pto) Find the sides of a right-angled triangle if they have lengths of x, $x+1$ and $x-7$ centimeters The sides have lengths of 13 cm, 12 cm and 5 cm

Exercise 7: (1 pto) Find the area of a kite if its sides measure 12 cm and 20 cm and the shortest diagonal has a length of 16 cm



$A_K = 218.19 \text{ cm}^2$

Exercise 8: (1 pto) Find the area of a regular hexagon if the side has a length of 8 cm

$A_H = 166.28 \text{ cm}^2$