SIMULTANEOUS EQUATIONS AND GEOMETRY TEST - 3° ESO

Exercise 1: (0.5 points) Enunciate Pythagoras' theorem

Exercise 2: (2.25 points) Solve the following simultaneous equations using the indicated method:

a) $\left.\begin{array}{l} 2x+y=2 \\ 3x-4y=25 \end{array}\right\}$ Substitution

b) $\left.\begin{array}{l} 3x+2y=19 \\ 2x-y=8 \end{array}\right\}$ Elimination

c) $\left.\begin{array}{l} x+y=1 \\ x+2y=6 \end{array}\right\}$ Graphically

Exercise 3: (1.5 points) Solve and classify the following systems of equations, using the method you prefer:

a) $\left.\begin{array}{l} 2x-5y=7 \\ 8x-20y=10 \end{array}\right\}$

b) $\left.\begin{array}{l} x-3y=4 \\ 5x-15y=20 \end{array}\right\}$

c) $\left.\begin{array}{l} 2x+5y=1 \\ 3x+4y=5 \end{array}\right\}$

Exercise 4: (1 point) As everybody knows, the fairies of Emerald City have only four wings, while the fairies of Turquoise City have six wings. One hundred fairies reunited this year at the Spring Fairy Convention, that took place in the Enchanted Valley. If I counted four hundred and ninety wings, how many fairies attended the meeting?
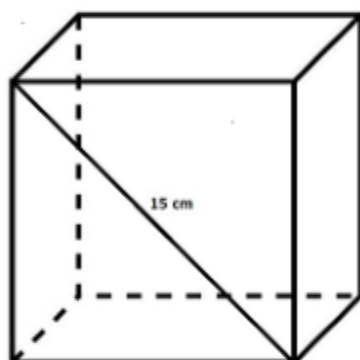
Exercise 5: (1 point) Work out the values of **x** and **y** in the following figure:
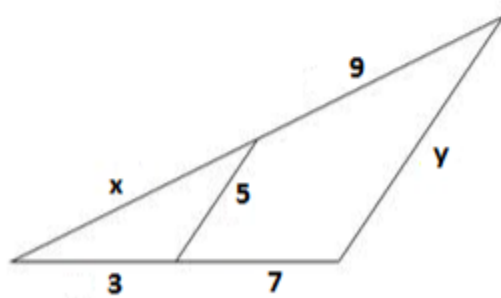
Exercise 6: (2 points) Work out the value of the area of a pentagonal pyramid with height 13cm if the length of the side of the base is 7cm and its radius is 12cm.
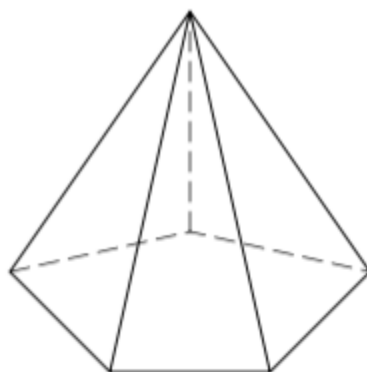
Exercise 7: (1.25 points) Calcula el área y la diagonal interior de un cubo si la diagonal de una de las caras es 15 cm.

15 cm

Exercise 8: (0.5 points) Escribe un sistema compatible indeterminado cuyas soluciones sean $x = 2$, $y = 7$