EQUATIONS TEST - 2º ESO

Exercise 1: (1.5) Solve the following equations:

a) $\frac{2}{3}=\frac{3(2x-7)}{5(3x-2)}$

b) $\frac{3x-7}{5}-\frac{5-2x}{2}=\frac{x}{4}-2$

Exercise 2: (1.25) Solve the following quadratic equations (without using the formula):

a) $3x^2-75=0$ b) $2x^2+200=0$

c) $7x^2+9x=0$ d) $16x^2-49=0$

Exercise 3: (1.25) Solve the following quadratic equations:

a) $x^2+x-2=0$ b) $x^2-8x+16=0$

c) $2x^2-14x+20=0$ d) $x^2-7x+30=0$

Exercise 4: (0.75) In a rectangle, the base is 5cm longer than the height and the area is 36cm^2. Find its dimensions.

Exercise 5: (2.25) Solve the following simultaneous equations using the indicated method:

a) $\left.\begin{matrix}x-2y=16\\2x+3y=-17\end{matrix}\right\}$ Substitution

b) $\left.\begin{matrix}2x+3y=9\\4x-y=-17\end{matrix}\right\}$ Elimination

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

Exercise 6: (1.5) Solve and classify the following systems of equations, using the method you prefer:

a) $\left.\begin{matrix}3x+5y=9\\9x+15y=27\end{matrix}\right\}$

b) $\left.\begin{matrix}3x-y=4\\6x-2y=7\end{matrix}\right\}$

c) $\left.\begin{matrix}5x+2y=18\\3x+5y=26\end{matrix}\right\}$

Exercise 7: (1) My mom always goes to Saint Gregorius factory and buys olive oil for an entire year. She usually gets seventy two liters of olive oil in cans of two and five liters. If she gets a total of eighteen cans, how many cans of each type does she buy?

Exercise 8: (0.5) Añade una ecuación a

$7x-9y=5$

de forma que el sistema resultante sea incompatible