EQUATIONS TEST – 3º ESO

Exercise 1: (2.5 ptos) Solve and classify the following systems of equations using the indicated method:

a) $\left.\begin{matrix} 3x-y=7 \\ 6x-2y=15 \end{matrix}\right\}$ Substitution

b) $\left.\begin{matrix} 2x-6y=4 \\ 3x-9y=6 \end{matrix}\right\}$ Elimination

c) $\left.\begin{matrix} x-y=8 \\ 2x+y=1 \end{matrix}\right\}$ Graphical

d) $\left.\begin{matrix} 3x+y=4 \\ 5x-3y=7 \end{matrix}\right\}$ Nasıl istersen

Exercise 2: (0.75 ptos) Find the value of k so that when we divide the polynomial $P(x)=kx^3-3x^2+5x-4$ by $(x+1)$ the remainder is eleven

Exercise 3: (1.5 ptos) Divide the following polynomials and indicate the quotient and the remainder:

a) $(x^4-5x^3-3x+4):(x^2-2x)=$

b) $(3x^4-x^2-3):(x-2)=$

Exercise 4: (3 ptos) Find the roots of these polynomials and factorize them:

a) $P(x)=x^5-2x^4-13x^3+26x^2+36x-72$

b) $Q(x)=x^6+9x^5+23x^4+15x^3$

c) $R(x)=6x^4-5x^3-20x^2+25x-6$

Exercise 5: (1.5 ptos) Solve:

a) $(2x-1)^2-24=(x+3)^2$

b) $\frac{x-5}{x-1}=\frac{x-3}{x+5}$

Exercise 6: (0.75 ptos) I am thinking that I didn't study enough for my Math text, because the teacher asked me to factorize the polynomial $R(x)=5x^5+4x^4+3x^3+2x^2+8x$, and when I answered $R(x)=(x-2)(x+3)(x+1)^2$, she looked at me as if she wanted to strangle me... Is it that bad? Really? Please, tell me what's wrong !!!!