FRACTIONS AND POLYNOMIALS TEST – 2º ESO

Exercise 1: (1 pto) Indicate the coefficient, the literal part and the degree of the following monomials:

	Coefficient	Literal part	Degree
a) $-\frac{5}{3}x^2y^3z$	$-5/3$	x^2y^3z	6
b) sun	1	sun	3
c) $-5a^{-1}$	It's not a monomial		
d) 25	25	$\not\exists$	0

Exercise 2: (1.75 ptos) Work out:

a) $3(a-5)-2(4-a)=5a-23$

b) $5x+2y-3z-4x-2y-9z=x-12z$

c) $(3x^2)\cdot(5x)-(14x^9):(2x^6)=8x^3$

Exercise 3: (1 pto) Write the following statements using algebraic language:

a) The triple of a number minus its square $3x-x^2$

b) The product of three numbers eva

c) The fourth root of the sum of two numbers $\sqrt[4]{a+b}$

d) The difference of the square of a number and its cube x^2-x^3

Exercise 4: (1 pto) So far Spain has received 1800000 coronavirus vaccines. On December they used one tenth of them, and on January, four fifths of the remaining ones.

a) What fraction has already been used? $41/50$

b) What fraction is left? $9/50$

c) How many vaccines do we still have unused? 324000 vaccines

Exercise 5: (1.25 ptos) Two fifths of the inhabitants of a village were vaccinated during the first phase of the campaign, and two sevenths of the remaining ones were vaccinated in the second phase. If there are still 1500 people waiting to get the vaccine, how many inhabitants does the village have?

3500 people

Exercise 6: (1 pto) Find the value of x:

a) $\frac{7}{x}=\frac{2}{6} \rightarrow \boxed{x=21}$ b) $\frac{8}{12}=\frac{x}{6} \rightarrow \boxed{x=4}$ c) $\frac{x}{20}=\frac{5}{x} \rightarrow \boxed{x=10}$

Exercise 7: (3 ptos) Work out:

a) $1+\left(\frac{4}{5}-\frac{2}{3}\right)^{-2}-\left(\frac{2}{3}:\frac{5}{4}\right)^{-1}=\frac{443}{8}$

b) $3^{-2}-\frac{5}{3}:\frac{6}{4}+\left(\sqrt{\frac{3}{5}\cdot\frac{12}{20}}\right)^{-1}=\frac{2}{3}$

c) $\left(3-\frac{2}{5}\cdot\frac{3}{7}\right)^{-1}-\frac{2}{9}=\frac{13}{99}$