



## FRACTIONS AND POLYNOMIALS TEST – 2º ESO



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

Monomial	Coefficient	Literal part	Degree
a) $-3xy^2z^5$	-3	$xy^2z^5$	8
b) $-eva^3$	-1	$eva^3$	5
c) $u^5 + v^7$	<b>It is not a monomial</b>		
d) 17	17	$\cancel{}$	0

**Exercise 2: (1 pto)** Work out:

a)  $2(a+5) + 3(3a-4) - 7(a-1) = 4a + 5$

b)  $3(x^2 - 2x) - 5(x-1) = 3x^2 - 11x + 5$

**Exercise 3: (1.25 ptos)** Evaluate the polynomial  $P(x) = 2x^3 - x^2 - 7x + 9$  when  $x = 3$  and when  $x = -1$

$P(3) = 33$                        $P(-1) = 13$

**Exercise 4: (1.75 ptos)** Given the polynomials  $P(x) = 4x^3 - 3x^2 - 5x + 7$ ,  $Q(x) = -x^3 + 7x^2 - 5x - 2$  and  $R(x) = 3x^2 - x$ , work out:

a)  $P + Q = 3x^3 + 4x^2 - 10x + 5$

b)  $P - Q = 5x^3 - 10x^2 + 9$

c)  $P \cdot R = 12x^5 - 13x^4 - 12x^3 + 26x^2 - 7x$

**Exercise 5: (1 pto)** Find the value of x:

a)  $\frac{6}{x} = \frac{2}{7} \rightarrow x = 21$

b)  $\frac{3}{12} = \frac{x}{8} \rightarrow x = 2$

c)  $\frac{x}{16} = \frac{4}{x} \rightarrow x = 8$

**Exercise 6: (1.25 ptos)** Now that the temperatures are getting warmer, Little Seagull is coming back from Africa and she has decided on a three legs journey. The first week she travels three sevenths of the distance and the second week she travels two fifths of the remaining distance. If she still has one hundred and ninety-two km to go, what is the total distance that she has to cover? **560 km**

**Exercise 7: (1 pto)** I've bought three bags of sugar-free candies with forty candies each for the students who pass the Math exam. In the first class I've given them three fifths of the candies, and in the second one, two thirds of the remaining ones. How many candies do I still have left? **16 candies left**



**Exercise 8: (1.75 ptos)** Work out:

$$\text{a) } \left(\frac{4}{5} - \frac{1}{2}\right)^{-2} - \left(\frac{3}{2} \div \frac{7}{6}\right)^{-1} = \frac{31}{3}$$

$$\text{b) } 1 - \frac{7}{5} \cdot \frac{3}{2} + \left(\sqrt{\frac{16}{27} \div \frac{3}{4}}\right)^{-1} + 2^{-3} = \frac{3}{20}$$

