

EXAMEN GLOBAL SEGUNDA EVALUACIÓN - 2º ESO

Exercise 1: (1.5 points) Work out:

a) $\frac{7}{4} - \frac{2}{3} \cdot \left(\frac{1}{2} + \frac{5}{4}\right) - \left(\frac{3}{2} + 5\right) + \frac{3}{4} : \frac{2}{7} =$

b) $\left(3 - \frac{5}{2}\right)^{-3} - \left(\sqrt{\frac{16}{81}}\right)^{-2} =$

Exercise 2: (1.25 points) Given the polynomials:

$P(x) = -x^3 + 7x^2 + 9x$; $Q(x) = 4x^3 - 5x^2 + 8x - 3$; $R(x) = x - 2$

a) Work out $P - Q$

b) Work out $Q \cdot R$

Exercise 3: (1.25 points) Work out the numerical value of the polynomial $P(x) = x^4 + 2x^3 - 3x^2 + x - 7$

a) When $x = 3$

b) When $x = -2$

Exercise 4: (0.9 points) Expand using quadratic multiplication formulas:

a) $(x - 9)^2 =$

b) $(2x - 5)(2x + 5) =$

c) $(3y + 4)^2 =$

Exercise 5: (1.6 points) Solve the following quadratic equations:

a) $10x^2 - 5x = 0$

b) $x^2 + 6x + 9 = 0$

c) $x^2 - 2x - 8 = 0$

d) $3x^2 - 75 = 0$

Exercise 6: (2.75 points) Solve the following equations:

a) $\frac{2(3x-5)}{5(x+3)} = \frac{3}{4}$ (0.5)

b) $(x-3)(x+1) = 32$ (0.75)

c) $(x-3)^2 + (x+1)^2 = 8x$ (0.75)

d) $\frac{x}{4} = \frac{x^2 + 2}{7x + 2}$ (0.75)

Exercise 7: (0.75 points) El doble del consecutivo de un número menos la tercera parte de dicho número es igual al número más doce. Cálculalo.