



POLYNOMIALS AND EQUATIONS TEST
2º ESO



Exercise 1: (1.5 ptos) If $P(x) = 3x^2 - 5x + 2$, $Q(x) = -x^2 + 7x - 9$ and $R(x) = 2x - 7$ work out:

- a) $P + Q =$
- b) $P - Q =$
- c) $P \cdot R =$

Exercise 2: (2 ptos) Work out using quadratic multiplication formulas:

- a) $(x+5)^2 =$
- b) $(5a-2b)^2 =$
- c) $(4x^5-3)(4x^5+3) =$
- d) $(5y^4-y^3)^2 =$

Exercise 3: (1.75 ptos) Work out:

- a) $5(2x-1) - (x-5) = 21x - 4(3x-2)$
- b) $\frac{5x-2}{4} - \frac{x-4}{3} = 1 - \frac{5-3x}{2}$
- c) $\frac{7-2x}{3x+2} = \frac{5}{2}$

Exercise 4: (1.25 ptos) My fridge is empty again, I still didn't find the way to live without eating, so I'm going to the store again. A kilo of melon is 2€ cheaper than a kilo of grapes, and if a melon that weighs four kilos and two kilos of grapes, I have to pay thirteen euro. What's the price of a kilo of each product?

Exercise 5: (1 pto) In an isosceles triangle the base is eight cm less than the equal sides, and the perimeter measures fifty-five cm. Find its dimensions.

Exercise 6: (1.5 ptos) Take out common factors:

- a) $18x^2y^5 - 9x^2y^3 - 27x^7y^3 =$
- b) $3x^6 - 9x^5 - 27x^4 + 12x^3 =$
- c) $uvw^3 + uv^3w + u^3vw =$

Exercise 7: (1 pto) Evaluate the polynomial $P(x) = 2x^3 - 5x^2 - 7x + 1$ when $x = -2$ and when $x = 3$

