

**EXERCICIOS DE REPASO 4º ESO. 1º TRIMESTRE.****1. Resolve os seguintes productos notables e recorda que:**

$$(3x - 2)^2 = \quad (x^2 + 2)^2 =$$

$$\left(\frac{x}{2} - 1\right)^2 = \quad \left(\frac{2}{3}x - \frac{4}{x}\right)^2 =$$

$$(x^2 + 2)(x^2 - 2) = \quad (4 - 2x^3)^2 =$$

$$(\sqrt{x} - \sqrt{y})(\sqrt{x} + \sqrt{y}) = \quad (x^5 + y^2)^2 =$$

**2. Calcula e simplifica:**

$$(x + 3)^2 - (x + 2)(x - 2) =$$

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

$$(x^3 - 2)(1 + x) - (2x + 5)(x^2 - 3x + 7) =$$

$$\left(\frac{1}{2} - x\right)^2 + \left(\frac{1}{2} + x\right)^2 =$$

**3. Factoriza os seguintes polinomios:**

$$p(x) = x^3 + 11x^2 - x - 11$$

$$q(x) = x^4 + x^3 - 7x^2 - x + 6$$

$$r(x) = x^4 + 3x^3 + 2x^2 + 7x + 3$$

**4. Realiza las siguientes divisiones:**

$$(3x^5 + x^4 + 7x^3 - 2x^2 - 3x - 1) : (x^2 + 2x - 1) =$$

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

**5. Simplifica:**

$$a) \sqrt{12} - 5\sqrt{75} + \sqrt{48} = \quad b) \sqrt[3]{7} \cdot \sqrt[5]{7} =$$

$$c) \frac{\sqrt[8]{3}}{\sqrt[4]{3} \cdot \sqrt{3}} = \quad d) 2\sqrt{2} + \frac{3\sqrt{3}}{4} - 10\sqrt{3} =$$

$$a) \sqrt{50} - 5\sqrt{18} + \sqrt{98} = \quad b) \sqrt[3]{2^2} \cdot \sqrt[4]{2} =$$

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**6. Racionaliza:**

$$a) \frac{1}{\sqrt{3}} = \quad b) \frac{\sqrt{3}}{\sqrt{5}} = \quad c) \frac{\sqrt{2}}{\sqrt{5} - \sqrt{2}} = \quad d) \frac{7}{3 + \sqrt{2}} =$$

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