



GLOBAL TEST 1st TERM - 4^o ESO



Exercise 1: (3 points) Solve the following guarrerías:

a) $\sqrt{2x+5} - \sqrt{x+2} = 1$

b) $\frac{8}{x^2-9} - \frac{x+1}{x-3} = \frac{x-25}{x+3}$

c) $x^3 + x^2 - 4x - 4 \leq 0$

Exercise 2: (1 point) Rationalize and simplify the following expressions:

a) $\frac{51}{\sqrt{3}} =$

b) $\frac{34}{\sqrt[9]{2^2}} =$

c) $\frac{\sqrt{8}}{5+\sqrt{8}} =$

Exercise 3: (2 points) Work out and simplify if possible:

a) $\frac{(x^2+4x+4)}{(x^2-x-6)} \cdot \frac{(2x^4-8x^2)}{(4x^3-12x^2)} =$

b) $\frac{x}{x+5} - \frac{2}{3-x} + \frac{x^2}{x^2+2x-15} =$

Exercise 4: (1 point) Factorize the polynomial $P(x) = x^5 + 2x^4 - 3x^3 - 8x^2 - 4x$ and indicate its roots

Exercise 5: (3 points) Solve and let's go home:

a) $\left. \begin{array}{l} xy = 12 \\ x^2 - 2y^2 = 28 \end{array} \right\}$

b) $\left. \begin{array}{l} x^2 + y = 4 \\ 2x + y = 5 \end{array} \right\}$

c) $\left. \begin{array}{l} x^2 - 3x - 10 \leq 0 \\ 16 - x^2 < 0 \end{array} \right\}$

