



FIRST TERM GLOBAL TEST- 4° ESO



Exercise 1: (1 pto) Work out and express as an interval:

$$(x-1)^2 - 3x \geq (x+5)^2 - 5x$$

Exercise 2: (2 ptos) Work out:

$$\text{a) } \left. \begin{array}{l} x^2 + 7x + 6 < 0 \\ 4 - x^2 \geq 0 \end{array} \right\}$$

$$\text{b) } \left. \begin{array}{l} x - y \geq 0 \\ 2x - y < 1 \end{array} \right\}$$

Exercise 3: (2 ptos) Work out:

$$\text{a) } \left. \begin{array}{l} xy = 8 \\ 2x^2 - 3y^2 = 20 \end{array} \right\}$$

$$\text{b) } \left. \begin{array}{l} x^2 + y^2 = 26 \\ x^2 - 2y = 23 \end{array} \right\}$$

Exercise 4: (1.25 ptos) Work out and rationalize:

$$\text{a) } \sqrt[5]{a^2} : \sqrt{a^{-1}} \cdot \sqrt[3]{a^{-10}} =$$

$$\text{b) } \frac{\sqrt{7} - \sqrt{5}}{\sqrt{7} + \sqrt{5}} =$$

Exercise 5: (1 pto) Work out:

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

Exercise 6: (1.25 ptos) Work out:

$$\frac{x-2}{x-5} - \frac{x^2-3}{x^2-3x-10} + \frac{5}{x+2} =$$

Exercise 7: (1.5 ptos) Simplify and solve this equation:

$$\frac{x^4 + x^3 - 4x^2 - 4x}{x^3 + 3x^2 + 2x} = \frac{3x}{5}$$

