

LEAVING CERTIFICATE HIGHER MATHS: TEST ON CHAPTER ONE

QUESTION ONE

Factorise (a) $8a^3 - 125b^3$ (b) $2x^2 - 32$ (c) Rationalise the denominator: $\frac{(1-\sqrt{2})}{(7-\sqrt{5})}$

QUESTION TWO

(a) Write the solutions to the quadratic equation $9x^2 - 12x - 1 = 0$

in the form $\frac{a \pm \sqrt{5}}{b}$ where $a, b \in \mathbb{N}$.

(b) Solve the equation $x - 2 = \sqrt{x + 18}$

QUESTION THREE

Show that $p^3 + q^3 - (p + q)^3 = -3pq(p + q)$