

MAT Problems D - Algebra (1 page; 19/9/17)

[Note: These are all included in the STEP Problems]

(1) Solve the equation $x - \sqrt{x} = 6$

(2) Given that $\frac{bc-a}{1-c} = 7$ & $\frac{b^2c-a^2}{1-c} = 51$, show that $\frac{a+7}{a^2+51} = \frac{b+7}{b^2+51}$

(3) (i) Find an expansion for $(a + b + c)^3$, and give a justification for the coefficients.

(ii) Extend this to $(a + b + c)^4$