JAMES RUSE AGRICULTURAL HIGH SCHOOL: MATHEMATICS FACULTY

ASSIGNMENT | Explained Solution

Date due: **Friday 13 March, 2009 (Term 1, Week 7)**

Introduction

The processes of adding, multiplying or simplifying pre-existing mathematical expressions are the basic tools of working with algebraic equations and inequalities. But several higher-order skills must be developed in students if they are to become true mathematicians. These skills include:

- *Constructing* a mathematical expression from the details of a concrete situation, also called "abstraction"
- *Communicating* the details of a mathematical process, including an explanation of the underlying logic
- *Presentation* of mathematical ideas in a coherent, reasonable and comprehensible format

Task

You are to construct an *explained solution* to a set question from Exercise 6:09 of the class textbook (Year 9 Signpost Mathematics Advanced, Second Edition), and hand this in on paper separate from your book. This solution must have the following features:

- Written and set out neatly
- Tidy illustration of any required diagrams or tables
- Understandable by a student who has never seen the question before and knows nothing about it
- Brief comments explaining each line of working
- Full sentences explaining the logic between major steps of the solution
- Your name!

Assigned Questions

You are required to write this explained solution for ONE of the following (circle the question that is assigned to you):

A. Question 5, including additional part (c)
B. Question 6
C. Question 7, parts (a–c)
D. Question 7, parts (d–f)
E. Question 7, parts (g–h)
F. Question 8

Assessed Outcomes

COMM* Students develop and use appropriate language and representations to formulate & express mathematical ideas

WMS4.3 Identifies relationships and the strengths and weaknesses of different strategies and solutions, giving reasons

REAS** Students develop and use processes for exploring relationships, checking solutions and giving reasons to support their conclusions

WMS4.4 Uses mathematical terminology and notation, algebraic symbols, diagrams, text & tables to communicate mathematical ideas

PAS4.1 Uses letters to represent numbers; translates between words and algebraic symbols

PAS4.2 Creates, records, analyses and generalises number patterns using words and algebraic symbols in a variety of ways

* Communicating
** Reasoning
These are strands in the *Working Mathematically* section of the Stage 4 Mathematics syllabus.