UNIT 8 *Algebra: Brackets* Teaching Notes

Historical Background and Introduction

The historical introduction to the development of algebra has already been given in Y7B, Unit 16: here we continue the developments started in Year 7 by extending the expansion of brackets. At all times, the preciseness and uniqueness of algebraic methods must be stressed. There are exact rules to apply, and there should never be any confusion.

Routes		**Standard**	**Academic**	**Express**
8.1	Expansion of Simple Brackets	✓	✓	✓
8.2	Linear Equations	✓	✓	✓
8.3	Common Factors	(✓)	✓	✓
8.4	Expansion of Two Brackets	×	✓	✓

Language	**Standard**	**Academic**	**Express**
Order of operations	✓	✓	✓
Brackets	✓	✓	✓
Linear equations	✓	✓	✓
Factors and factorisation	✓	✓	✓

Misconceptions

- problems often occur with 'double' negative signs, e.g. $3-(-5)$ given as -2, whereas it should be 2.
- multiplying throughout a bracket, e.g. $3(x+6)$ given as $3x+6$, instead of $3x+18$ (correct).
- realising that, for example, $2\times(3x)$ is, in fact, $2\times 3\times x=6x$, and not $(3x)^2$ or $3x^2$ or $6x^2$, etc.
- confusion between x^2 $(=x\times x)$ and $2x$ $(=2\times x)$.
- writing $(x+a)^2=x^2+a^2$, instead of $x^2+2ax+a^2$ (correct).

Challenging Questions

The following questions are more challenging than others in the same section:

	Section	*Question No.*	*Page*
Practice Book Y8A	8.1	10	131
" "	8.2	8	134
" "	8.3	10	137
" "	8.4	11	141