

Dr Anastasia Sofroniou
Senior Lecturer in Mathematics
University of West London

Mathematics Short E-Course
Session One: Algebra
Exercise Sheet

Question 1

Simplify each of the following:

- (a) $7xy + 2xz - 5yx + 3zx$
- (b) $3(x - 3(y - 2x))$

Question 2

Remove the brackets in each of the following (by expanding the brackets) and simplify where possible:

- (a) $4x(2 - y)(y + 3)$
- (b) $(x + 3)(2x + 4)(x - 1)$
- (c) $(4x^2 - 6x)(x^3 - 3x + 4)$

Question 3

Perform the following divisions:

- (a) $(x^3 + 3x^2 + 6x + 4) \div (x + 1)$
- (b) $(2x^4 - x^3 - 8x^2 + x + 6) \div (x - 1)$