

Mandalay International Science Academy

Unit 2: Quiz #1

Algebraic Manipulation & Representation

A) Drag the following expressions, formulae, and equations to the correct groups.

$1.6x + 2.7$	$V = \pi r^2 h$	$A = l \times w$
$4x^2 + 2x + 5$	$G = 2x + 3$	$2x + 6 = 22$
$2y = 36$	$\sqrt{b+1} = 5$	$256x - 212y$

Expressions	Formulae	Equations

B) Simplify the following expressions.

Example: $a + b + 2a = 2a + b$

1) $a^2 + ab + ab + b^2 =$

2) $14x - 9y^2 + 2y - 3x + y^2 =$

3) $5a - 3b + 13c + 6a + b - 3c =$

4) $3ab^2 + 2a^2b - ab^2 + 13a^2b^2 =$

C) Find the value of the missing variables.

1) $A = 4x + 2$

$A = 50, x =$

2) $W = fd$

$W = 24, f = 4, d =$

3) $y = 2x + 3$

$y = 25, x =$

4) $e = mc^2$

$e = 48, c = 2, m =$

D) Expand the brackets in the following expressions and simplify

Example: $2x(x + y + 4) + 3x = 2x^2 + 2xy + 11x$

1) $3(x + y - z) + 3z =$

2) $(-a)(2a + b - c) - 2a =$

3) $(-4x)(x - 2y) =$

4) $x^2(3x^2 - 2x + 2) =$

E) Factorize the following expressions.

Example: $3x^2 + 6xy = 3x(x + 2y)$

1) $12x^2 + 15x =$ ()

2) $46ac^2 + 69bc^2 =$ ()

3) $30a^2b^3 - 77ab^2 =$ ()

4) $18x^3 + 66x^2y - 63xy^2 =$ ()