

Mandalay International Science Academy

Unit 2: Quiz #1

Algebraic Manipulation & Representation

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

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

Expressions	Formulae	Equations

B) Simplify the following expressions.

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

1) $x^2 + xy + y^2 + xy =$

2) $9a + 25b + 3a - 5b + 3b^2 =$

3) $3x + 2y - 4z - 2x + 7y + 3z =$

4) $2xy - 4x^2y + 9xy^2 + 5x^2y =$

C) Find the value of the missing variables.

1) $A = 4x + 5$

$A = 25, x =$

2) $W = fd$

$W = 99, f = 11, d =$

3) $y = 5x + 3$

$y = 28, x =$

4) $e = mc^2$

$e = 32, c = 4, m =$

D) Expand the brackets in the following expressions and simplify

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

1) $9(x - y + z) - 7z =$

2) $(-a)(2a + 2ab - c) - 2ab^2 =$

3) $(-3a)(a - 6b) =$

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

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