



SEKOLAH BUKIT SION – MIDDLE SCHOOL
AY 2015 – 2016 SEMESTER 1
CHAPTER TEST: FUNDAMENTAL ALGEBRA

NAME		DATE	
CLASS		SCORE	
PARENT'S SIGNATURE :		TEACHER	MR EMMAN

1. Factorise.

(a) $x^2 - 6x$

(b) $10x^5 + 6x^4 - 30x^3$

(c) $91a^5b + 13a^7b$

[3]

2. Factorise.

(a) $b(b - 5) + 3(b - 5)$

(b) $m(y - 3) + 7(3 - y)$

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

(d) $x^2(x - y) + 6x(y - x) + 3(x - y)$

[4]

3. Factorise completely.

[8]

(a) $2ac + 2c + 5ad + 5d$

(c) $2ac - 4ad + 6d - 3c$

(b) $2x^3 + 6x^2 + 3x + 9$

(d) $2x + ax - 6y - 3ay$

4. Solve the following equations:

[14]

(a) $15x + 4 = 4x + 103$

(e) $\frac{x + 6}{4} = \frac{1 + x}{2}$

(b) $\frac{2}{3}x + 15 = 4x$

(d) $5(2 - 3x) - (1 + 7x) = 5(3 - 6x)$

(f) $\frac{5x - 1}{8} - \frac{5 - 7x}{2} = \frac{3(6 - x)}{6}$

5. Solve and draw the number line for each of the following inequalities.

[8]

(a) $x \geq 2$	(c) $-2x - 2 > x + 5$
(b) $n + 4 < 7$	(d) $2x - 3(x - 4) \geq 4 - 2(x - 7)$

6. Make the indicated letter the subject of the formula.

[10]

(a) $y = mx + c$ (m)	(d) $ax - y + z = b$ (y)
(b) $\frac{a(x + y)}{b} = c$ (a)	(e) $2s = 2ut + at^2$ (t)
(e) $ax + b(x - a) = ay$ (x)	

For items 7 and 8, choose and answer either a or b.

7. (a) Find two consecutive even numbers such that the sum of the larger and three times the smaller number is 42. [3]

(b) The result of adding 14 to twice a number is the same as subtracting 8 from four times that number. Find the number. [3]



8. (a) A woman is now 8 times as old as her son.
Two years ago, she was 15 times as old as her son.

(i) Write down an expression for the son's and woman's age two years ago.

(ii) Form an equation in x and solve the equation to find the son's age.

(iii) Find the woman's age in 5 years' time. [5]

(b) Find the dimensions of a rectangle with perimeter 128 cm if its length is 6 cm less than four times the width. [5]



9. The average of four numbers is 56.
The first number is 5 more than the second.
The third number is half of the second.
The fourth number is three times the sum of the first and second numbers.
Find the four numbers.

[5]

Let _____ be the first number
_____ be the second number
_____ be the third number
_____ be the fourth number

****End of Test****