

Year 9

Name: \_\_\_\_\_

Class: \_\_\_\_\_

## Chapter 2: Linear and simultaneous equations pre-test

The idea of this pre-test is to determine the knowledge that you and the rest of the class has with regards to the topic of Linear and simultaneous equations. If you can't answer a particular question please feel free to write down what you do know. Please do your best to answer all questions

**Teacher Comments:**

## Section 1: Standard course

### Instructions:

- Answer all questions in the spaces provided.
  - You are not allowed to use a calculator for this test
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1. Write algebraic expressions for the following word problems.

i)  $t$  boys and 2 girls

ii)  $b$  boys and  $g$  girls

2. Convert expressions in words to algebraic expressions.

i) 3 more than  $x$

ii) the product of  $a$  and  $b$

iii) 2 lots of  $y$  less 3

iv) The quotient of  $y$  and 2

3. Evaluating algebraic expressions: Evaluate the following if  $a = 3$  and  $b = -2$

i)  $2a - 5$

ii)  $ab + 4$

iii)  $a(b + 1)$

iv)  $b^2 - a$

4. Simplify the following

i)  $2 \times 3x$

ii)  $(-3n) \times (-4)$

5. Simplify the following

i)  $\frac{8b}{2}$

ii)  $\frac{7y}{y^2}$

6. Simplify the following

i)  $2x + 3y - x + y$

ii)  $2ab^2 + a - b + 2a + b^2a$

7. Expand the following.

i)  $3(x + 2)$

ii)  $-2(2b - 1)$

8. Expand the following

i)  $x(x + 2)$

ii)  $-2b(x - 3b)$

9. Expand and simplify the following

i)  $2 + 3(x + 3)$

ii)  $4(x + 1) + 2(1 + x)$

10. Solve the following for  $x$ .

i)  $2x + 5 = 9$

ii)  $2 + 3x = 8$

iii)  $\frac{6}{x} = 2$

iv)  $\frac{2x}{3} - 1 = 7$

11. Solve the following for  $x$ .

i)  $5x - 2 = 3x - 4$

ii)  $3(2x + 4) = 8(x + 1)$

12. Write an algebraic expression for the following word problems and solve for the variable.

i) five more than twice a certain number is equal to nine. Write an equation to represent this and solve it to find the number

ii) if you subtract from two a certain number divided by five the answer is 4. Write an equation to represent this and solve it to find the number

13. Together Mario and Luigi weigh 193 kg. If Mario weighs 32kg more than Luigi, how much does each of them weigh?

14. Inequalities: Circle to indicate which of the expressions below are true or false

a.  $5 > 3$

True  
False

b.  $4 \geq 4$

True  
False

c.  $-1 < 5$

True  
False

d.  $-3 < -1$

True  
False