**End of Unit Test** Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Simplifying and Substituting - FOUNDATION**

1) In each part, match the statement to the expression. Circle your answer.

(a) Two more than x.

              2x x + 2 x – 2 x2

**(1)**

(b) Four less than x.

4 – x 4x $\frac{x}{4}$ x − 4

**(1)**

(c) Three times x.

3x $\frac{x}{3}$ x + 3 x3

**(1)**

(d) Half of x.

x ÷ 0.5 $\frac{2}{x}$ $\frac{x}{2}$ 2x

**(1)**

**(Total 4 marks)**

2) Which of these can be written as $\frac{a}{b}$? Circle your answer.

b ÷ a a – b a ÷ b b − a

**(Total 1 mark)**

3) (a) Circle the expression that is equivalent to 4 × m

 m4 4m 4m m x m x m x m

**(1)**

(b) Circle the expression that is equivalent to y × y × y

 3y y2 3y2 y3

**(1)**

(c) Circle the expression that is equivalent to a + b

 b + a ab ba 2ab

**(1)**

**(Total 3 marks)**

4) You are given that a = 3 and b = 5. Tick whether each statement is true or false. Give a

reason for each answer.

|  |  |  |  |
| --- | --- | --- | --- |
| **Statement** | **True** | **False** | **Reason** |
| ab = 35 |   |   |   |
| 2b2 = 100 |   |   |   |

**(Total 2 marks)**

5) (a) Simplify fully 4x + 7y + 5x – y

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 …………………………………………………………………………………………………..

Answer ......................................................................

**(2)**

(b) Multiply out 4(x + 3)

 …………………………………………………………………………………………………..

Answer ......................................................................

**(1)**

(c) Factorise x2 − 5x

 …………………………………………………………………………………………………..

Answer ......................................................................

**(1)**

**(Total 4 marks)**

6) Here is a formula: $V= \frac{1}{2}x^{2}h$

Work out the value of V when     x = 11 and h = 6

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Answer ...................................................................................

**(Total 2 marks)**

7) (a) Expand and simplify (x + 5)(x + 9)

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Answer ......................................................................

**(2)**

(b)     Factorise fully 5x2 − 10xy

 …………………………………………………………………………………………………..

Answer ......................................................................

**(2)**

**(Total 4 marks)**

**(Total for test = 20 marks)**