YEAR 7 • ALGEBRA

Substitution into Formulae

Using positive and negative values in expressions and formulae

Name _____ **Date** _____

Instructions: Substitute each given value into the expression. Put negative values in brackets before simplifying. Show your working, and include units where they are given.

A Positive values

QUESTIONS 1–6

1 **a + 7**, when **a = 5**

Working _____ Answer _____

2 **4b**, when **b = 3**

Working _____ Answer _____

3 **18 − c**, when **c = 11**

Working _____ Answer _____

4 **2d + 5**, when **d = 6**

Working _____ Answer _____

5 **3(e − 2)**, when **e = 7**

Working _____ Answer _____

6 **(f + 4) ÷ 2**, when **f = 10**

Working _____ Answer _____

B Negative values

QUESTIONS 7–12

7 **x + 9**, when **x = −4**

Working _____ Answer _____

8 **3y**, when **y = −5**

Working _____ Answer _____

9 **14 − z**, when **z = −6**

Working _____ Answer _____

10 **2a + 7**, when **a = −3**

Working _____ Answer _____

11 **4(b − 1)**, when **b = −2**

Working _____ Answer _____

12 **(c + 10) ÷ 2**, when **c = −4**

Working _____ Answer _____

C Using formulae

QUESTIONS 13–16

13 **E = 2a + b**

a = −3, b = 7

Working _____ Answer _____

14 **y = 4n − 6**

n = 5

Working _____ Answer _____

15 Rectangle perimeter: **P = 2l + 2w**

l = 8 cm, w = 5 cm

Working _____ Answer _____

16 Rectangle area: **A = bh**

b = 6 cm, h = 7 cm

Working _____ Answer _____

Check your brackets, signs and arithmetic before you finish.