YEAR 8 • ALGEBRA

Substitution into Algebraic Formulae

Name _____ **Date** _____

Replace each letter with its given value. Show the substitution first, then calculate.

A Evaluate each expression

Show your working

1 $4x + 7$

when $x = 3$

Substitution _____

Answer _____

2 $5a^2$

when $a = -2$

Substitution _____

Answer _____

3 $18 - 3y$

when $y = 4$

Substitution _____

Answer _____

4 $2m + n$

when $m = 5$ and $n = 6$

Substitution _____

Answer _____

5 $(p + 9) \div 3$

when $p = 6$

Substitution _____

Answer _____

6 $3r^2 - 2s$

when $r = 3$ and $s = 4$

Substitution _____

Answer _____

B Use the formulae

Include units where needed

7 **Rectangle perimeter**

$P = 2l + 2w$

Find P when l = 8 cm and w = 5 cm.

Substitution _____

Answer _____ cm

8 **Triangle area**

$A = bh \div 2$

Find A when b = 12 cm and h = 7 cm.

Substitution _____

Answer _____ cm^2

9 **Minibus hire cost**

$C = 2.50n + 1.20$ (C in £)

Find C when n = 4 pupils.

Substitution _____

Answer £ _____

10 **Distance travelled**

$d = st$

Find d when s = 4.5 m/s and t = 6 s.

Substitution _____

Answer _____ m

— Check that you have substituted every given value before calculating.