

Name: _____

GCSE (1 – 9)

Substitution

Instructions

- Use **black** ink or ball-point pen.
- Answer all Questions.
- Answer the Questions in the spaces provided
– *there may be more space than you need.*
- Diagrams are **NOT** accurately drawn, unless otherwise indicated.
- You must **show all your working out.**

Information

- The marks for each Question are shown in brackets
– *use this as a guide as to how much time to spend on each Question.*

Advice

- Read each Question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every Question.
- Check your answers if you have time at the end

1 $f = 7$
 $g = 5$

Work out the value of $3f + 2g$

(Total for Question 1 is 2 marks)

2 $c = 4d - 7$

Find the value of c when $d = 6$

(Total for Question 2 is 2 marks)

3 $v = u + at$

$u = 3$
 $a = 10$
 $t = 6$

Work out the value of v .

$v =$ _____
(Total for Question 3 is 2 marks)

4 $x = 4$
 $y = 6$

Work out the value of $3x - y$

(Total for Question 4 is 2 marks)

5 $L = 9m + 2n$

Work out the value of L when $m = 3$ and $n = -6$

(Total for Question 5 is 2 marks)

6 $q = 5p + 3r$

$$p = 6$$

$$r = -4$$

Work out the value of q .

(Total for Question 6 is 2 marks)

7 $H = 4f + g$

Work out the value of H when $f = 5$ and $g = -2$

(Total for Question 7 is 2 marks)

8 $A = 4p + 5q$

$$p = 3$$

$$q = -2$$

Work out the value of A .

(Total for Question 8 is 2 marks)

9 $L = 9m + 2n$

Work out the value of L when $m = -3$ and $n = 4$

(Total for Question 9 is 2 marks)

10 $q = 6p - r$

$$p = -4$$

$$r = 5$$

Work out the value of q .

(Total for Question 10 is 2 marks)

11 $H = f - 2g$

Work out the value of H when $f = 12$ and $g = -6$

(Total for Question 11 is 2 marks)

12 $A = 5p + 6q$

$$p = 10$$

$$q = -2$$

Work out the value of A .

(Total for Question 12 is 2 marks)

13 $L = m(n - 2)$

Work out the value of L when $m = 9$ and $n = 5$

(Total for Question 13 is 2 marks)

14 $a = 5bc$

$$b = -4$$

$$c = -3$$

Work out the value of a .

(Total for Question 14 is 2 marks)

15 $x = 4y^2 - 12$

Work out the value of x when $y = 5$

(Total for Question 15 is 2 marks)

16 $A = p - 2q$

$$p = -4$$

$$q = -7$$

Work out the value of A .

(Total for Question 16 is 2 marks)

17 $a = 8$
 $b = -5$
 $c = 2$

Work out the value of $b^2 - 4ac$

(Total for Question 17 is 2 marks)

18 $d = \frac{m}{v}$

Work out the value of d when $m = 32$ and $v = 8$

(Total for Question 18 is 2 marks)

19 $A = 2j - jk$

Work out the value of A when $j = 7$ and $k = 3$

(Total for Question 19 is 2 marks)

20 $w = 5x^2 + 3$

$x = -3$

Work out the value of w .

(Total for Question 20 is 2 marks)

21 $A = \frac{1}{2}bh$

Work out the value of A when $b = 3$ and $h = 8$

(Total for Question 21 is 2 marks)

22 $A = \frac{1}{2}(a+b)h$

Work out the value of A when $a = 7$, $b = 6$ and $h = 10$

(Total for Question 22 is 2 marks)

23 $v = u + at$

Work out the value of v when $u = 12$, $a = -6$ and $t = 5$

(Total for Question 23 is 2 marks)

24 $y = mx + c$

$m = -2$

$x = 12$

$c = -7$

Work out the value of y .

(Total for Question 24 is 2 marks)

25 $s = ut + \frac{1}{2}at^2$

$$u = 3$$

$$a = 2$$

$$t = 4$$

Work out the value of s .

$$s = \dots\dots\dots$$

(Total for Question 25 is 2 marks)

26 $s = ut + \frac{1}{2}at^2$

$$u = -5$$

$$a = 4$$

$$t = 3$$

Work out the value of s .

$$s = \dots\dots\dots$$

(Total for Question 26 is 2 marks)

27 $s = \frac{v^2 - u^2}{2a}$

$$v = 7$$

$$u = 5$$

$$a = 3$$

Work out the value of s .

$$s = \dots\dots\dots$$

(Total for Question 27 is 2 marks)
