

Substitution

For Pearson Edexcel GCSE Mathematics (1MA1) • Foundation tier

Name _____

Total marks: **33**

Answer **all** questions in the spaces provided. Show your working: marks are given for correct method.

1 Work out the value of

(a) $3x$ when $x = 7$

.....
(1)

(b) $y + 8$ when $y = -3$

.....
(1)

(c) $4p - 1$ when $p = 5$

.....
(1)

(Total for Question 1 is 3 marks)

- 2 Work out the value of $10 - 3x + y$ when $x = 4$ and $y = -6$

.....
(2)

(Total for Question 2 is 2 marks)

- 3 $W = 8a - 3b$

- (a) Work out the value of W when $a = 2$ and $b = -4$

$W =$
(2)

- (b) When $a = 5$, $W = 25$
Work out the value of b .

$b =$
(2)

(Total for Question 3 is 4 marks)

4 $K = \frac{a+b}{c}$

Work out the value of K when $a = -7$, $b = 19$ and $c = -4$

$K = \dots\dots\dots$
(2)

(Total for Question 4 is 2 marks)

5 $G = 30 - 2t^2$

Work out the value of G when $t = -3$

$G = \dots\dots\dots$
(2)

(Total for Question 5 is 2 marks)

6 $y = x^2 - 5x + 6$

Work out the value of y when $x = 4$

$y = \dots\dots\dots$
(2)

(Total for Question 6 is 2 marks)

- 7** Hannah uses this formula to work out the cost, C pounds, of hiring a car for d days.

$$C = 20 + 15d$$

- (a) Work out the cost of hiring a car for 4 days.

£
(2)

- (b) Hannah pays £125 to hire a car.
For how many days does she hire the car?

..... days
(2)

(Total for Question 7 is 4 marks)

- 8** Here is a rule to work out the time, in minutes, needed to cook a turkey.

Time = 40 minutes for each kg of weight, plus 20 minutes

- (a) Work out the time needed to cook a turkey of weight 5 kg.

..... minutes
(2)

- (b) Write a formula for T , the time in minutes, in terms of w , the weight in kg.

.....
(1)
(Total for Question 8 is 3 marks)

- 9** $x = 3$ and $y = -4$

Work out the value of $2x^2 - y$

.....
(2)
(Total for Question 9 is 2 marks)

- 10** Ellie works out the value of $x^2 + 2x$ when $x = -5$
She writes $-25 - 10 = -35$

(a) Explain the mistake Ellie has made.

(1)

(b) Work out the correct value of $x^2 + 2x$ when $x = -5$

.....
(1)

(Total for Question 10 is 2 marks)

- 11** $v^2 = u^2 + 2as$
 v is positive.

Work out the value of v when $u = 3$, $a = 4$ and $s = 2$

$v =$
(3)

(Total for Question 11 is 3 marks)

- 12** The area, A , of a trapezium is given by the formula $A = \frac{1}{2}(a + b)h$
where a and b are the lengths of the parallel sides and h is the height.

A trapezium has area 45 cm^2 .
Its parallel sides are 4 cm and 11 cm long.
Work out the height of the trapezium.

$$h = \dots\dots\dots \text{ cm}$$

(2)

(Total for Question 12 is 2 marks)

- 13** $F = 1.8C + 32$

Work out the value of C when $F = 50$

$$C = \dots\dots\dots$$

(2)

(Total for Question 13 is 2 marks)
