Write your name here

Surname

Other names

**Pearson Edexcel
Level 1/Level 2 GCSE (9–1)**

Centre Number

Candidate Number

Mathematics

Change the subject

Paper Reference

1MA1

Total Marks

You must have: Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser, calculator. Tracing paper may be used.

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions in the spaces provided
  – *there may be more space than you need.*
- You must **show all your working.**
- Diagrams are **NOT** accurately drawn, unless otherwise indicated.
- If your calculator does not have a π button, take the value of π to be 3.142 unless the question instructs otherwise.

Information

- The total mark for this paper is **25**. There are **9** questions.
- Questions have been arranged in an ascending order of mean difficulty, as found by all students in the June 2017–November 2019 examinations.
- 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.

1MA1 Higher themed papers: Change the subject

1   Make v the subject of the formula $w = \dfrac{15(t - 2v)}{v}$

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

2   Make m the subject of the formula $f = \dfrac{3m + 4}{m - 1}$

....
(Total for Question 2 is 3 marks)

1MA1 Higher themed papers: Change the subject

3 Make s the subject of $v^2 = u^2 + 2as$

....

(2)

(Total for Question 3 is 4 marks)

_____

4 $T = \dfrac{q}{2} + 5$

Here is Spencer's method to make q the subject of the formula.

$2 \times T = q + 5$

$q = 2T - 5$

What mistake did Spencer make in the first line of his method?

....

....

....

(Total for Question 4 is 1 mark)

_____

5   Make k the subject of the formula $y = \sqrt{2m - k}$

....

(Total for Question 5 is 2 marks)

6   Make t the subject of $p = \sqrt{a + \dfrac{t}{2}}$

....

(Total for Question 6 is 3 marks)

7 $u = \dfrac{3t}{4} + 2$

Make t the subject of the formula.

....

(3)

(Total for Question 7 is 7 marks)

8   Make t the subject of the formula $k = \dfrac{2(t+3)}{t-3}$

....

(Total for Question 8 is 4 marks)

9 Make *m* the subject of

$$f = \frac{4-3m}{5+m}$$

....

(Total for Question 9 is 4 marks)

TOTAL MARKS FOR PAPER: 25

$$f = \frac{4-3m}{5+m}$$