Write your name, centre number and candidate number in the boxes below.

Surname	Other names

Centre number | | | | | |

Candidate number | | | | |

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Changing the subject when it appears twice

Time allowed: 45 minutes

Subject code **0580**

Mathematics

Paper 2 (Extended)

You must have: a ruler marked in centimetres and millimetres, a protractor, compasses, a pen, an HB pencil and an eraser.
You may use a calculator.

Total marks

/ 34

Instructions

- Answer every question in the space provided on this paper.
- Write in black or dark blue ink. Pencil may be used for diagrams and graphs.
- Fill in your name, centre number and candidate number above.
- Show your working: a correct method can earn marks even if the answer is wrong.
- Unless a question says otherwise, give answers that are not exact to 3 significant figures, and angles in degrees to 1 decimal place.

Information

- This paper has 10 questions worth 34 marks in total.
- The marks for each question or part are shown in brackets, for example [3].

Advice

- Read every question through once before you write anything.
- Use the marks in brackets to judge how long to spend on each part.
- If you finish early, go back and check your working.

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Print at 100% (Actual size) so diagrams keep their real measurements.

1 Rearrange the formula $J = mv - mu$ to make m the subject.

Answer $m =$ [2]

Changing the subject when it appears twice Click for more variations

2 $P = 2r + \pi r$

Rearrange the formula to write r in terms of P and π.

$r =$ ..... [2]

Changing the subject when it appears twice Click for more variations

3 $ap = px + c$

Write p in terms of a, c and x.

Answer $p =$ ..... [3]

Changing the subject when it appears twice Click for more variations

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4 Make p the subject of the formula.

$$rp + 5 = 3p + 8r$$

$p =$ ..... [3]

Changing the subject when it appears twice Click for more variations

5 Make x the subject of the formula.

$$P = \frac{x + 3}{x}$$

Answer $x =$ [4]

Changing the subject when it appears twice Click for more variations

6 Make h the subject of the formula $2mh = g(1 - h)$.

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$h =$ ..... [4]

Changing the subject when it appears twice Click for more variations

7 Make m the subject of the formula.

$$x = \frac{3m}{2-m}$$

$m =$ ..... [4]

Changing the subject when it appears twice Click for more variations

8 Rearrange the formula to make m the subject.

$$R = \frac{2(m-k)}{m}$$

$m =$ ..... [4]

Changing the subject when it appears twice Click for more variations

9 Make x the subject of $3m + xy = \frac{xp}{4}$.

$x =$ ..... [4]

Changing the subject when it appears twice Click for more variations

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10 Make t the subject of the formula.

$$2 = \frac{m(1-t)}{pt}$$

$t =$ ..... [4]

Changing the subject when it appears twice Click for more variations

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