

## Rearranging Formulae

Please write clearly in block capitals

Forename:

Surname:

### Materials

For this paper you must have:

- mathematical instruments



You **can** use a calculator.

### Instructions

- Use black ink or black ball-point pen. Draw diagrams in pencil.
- Fill in the boxes at the top of this page.
- Answer all questions.
- You must answer the questions in the spaces provided. Do not write outside the box around each page or on blank pages.
- Do all rough work in this book. Cross through any work you do not want to be marked.

### Information

- The marks for questions are shown in brackets.
- You may ask for graph paper, tracing paper and more answer paper. These must be tagged securely to this answer book.

### Advice

- In all calculations, show clearly how you work out your answer.

- 1** Rearrange the following equations to make  $x$  the subject.  
For all questions, give your answer in its simplest form.

**1(a)**  $3x = 8$

[1 mark]

\_\_\_\_\_  
\_\_\_\_\_  
Answer \_\_\_\_\_

**1(b)**  $5x = 2y$

[1 mark]

\_\_\_\_\_  
\_\_\_\_\_  
Answer \_\_\_\_\_

**1(c)**  $\frac{5}{x} = 2y$

[1 mark]

\_\_\_\_\_  
\_\_\_\_\_  
Answer \_\_\_\_\_

**1(d)**  $10 - x = 5$

[1 mark]

\_\_\_\_\_  
\_\_\_\_\_  
Answer \_\_\_\_\_

Turn over for next question

Turn over ►

**2(a)** Rearrange  $b - 2x = n$  to make  $b$  the subject.

[1 mark]

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Answer \_\_\_\_\_

**2(b)** Rearrange  $t^2 = 3x + 1$  to make  $x$  the subject.

[1 mark]

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Answer \_\_\_\_\_

**2(c)** Rearrange  $3p + 4 = 6 - q$  to make  $q$  the subject.  
Simplify your answer.

[1 mark]

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Answer \_\_\_\_\_

**2(d)** Given  $\sqrt{x - 2} = 3a$  find  $x$  in terms of  $a$

[2 marks]

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Answer \_\_\_\_\_

Turn over for next question

**3(a)** Make  $S$  the subject of  $2S + 3 = T - 5$

[2 marks]

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Answer \_\_\_\_\_

**3(b)** Make  $y$  the subject of  $\frac{3+x}{y} = 2x + 1$

[2 marks]

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Answer \_\_\_\_\_



### GCSE Maths Revision Guide

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Turn over ►

**4(a)** Rearrange  $m(x + 3) = 2 + x$  to make  $m$  the subject.

[1 mark]

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Answer \_\_\_\_\_

**4(b)** Rearrange  $2px + 3p = 1 + 2x$  to make  $p$  the subject.

[2 marks]

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Answer \_\_\_\_\_

**4(c)** Rearrange  $2mx + 10 = 3x + m$  to make  $x$  the subject.

[3 marks]

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Answer \_\_\_\_\_

Turn over for next question

Turn over ►

- 5 Rearrange the formula below to make  $m$  the subject.

$$n = \frac{m - 4}{m + 3}$$

Show all your working clearly.

[4 marks]

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Answer \_\_\_\_\_

- 6 Rearrange the formula below to make  $x$  the subject.

$$y + 1 = \frac{2x - 10}{x + 1}$$

Show all your working clearly.

[4 marks]

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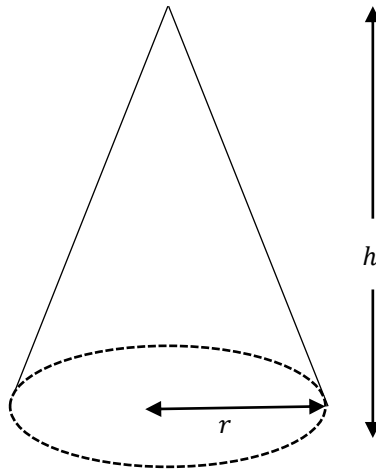
Answer \_\_\_\_\_

Turn over for next question

7

The formula for the volume of a cone,  $V \text{ cm}^3$ , is shown below

$$V = \frac{1}{3}\pi r^2 h$$



Not drawn  
accurately

Given that the height of the cone is twice the radius, find  $r$  in terms of  $V$ .

[3 marks]

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Answer \_\_\_\_\_

End of Questions