

Name

Class



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# Simplifying algebra

(9 – 1) Topic booklet

## Foundation

These questions have been collated from previous years GCSE Mathematics papers.

**You must have:** Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser.

Total Marks

### 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.*
- Diagrams are NOT accurately drawn, unless otherwise indicated.
- You must **show all your working out.**
- If the question is a **1F** question you are not allowed to use a calculator.
- If the question is a **2F** or a **3F** question, you may use a calculator to help you answer.

### 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.

**Answer ALL questions**  
**Write your answers in the space provided.**  
**You must write down all the stages in your working.**



1 (a) Simplify  $5p - 3p + p$

.....  
(1)

(b) Simplify  $m^3 + m^3$

.....  
(1)

(c) Simplify  $10 + 3c + 5d - 7c + d$

.....  
(2)

June 2017 – Paper 2F

**(Total for Question 1 is 4 marks)**

2 Simplify  $e + e + e + e$

June 2022 – Paper 1F

**(Total for Question 2 is 1 mark)**

2 Simplify  $y + 3y - 2y$



November 2017 – Paper 3F

(Total for Question 2 is 1 mark)

2 (a) Simplify  $8x - 3x + 2x$



(1)

(b) Simplify  $4y \times 2y$

(1)

Sample 1 – Paper 3F

(Total for Question 2 is 2 marks)

3 Simplify  $3 \times a \times 4$

November 2023 – Paper 1F

(Total for Question 3 is 1 mark)

3 Simplify  $m + m + m + m$



June 2023 – Paper 3F

(Total for Question 3 is 1 mark)

3 Simplify  $3e - e + 4e$



May 2020 – Paper 2F

(Total for Question 3 is 1 mark)

3 (a) Simplify  $3f \times 5g$



(1)

(b) Simplify  $t \times t$

(1)

(c) Simplify  $\frac{2n + 6n}{2}$

(1)

November 2017 – Paper 2F

(Total for Question 3 is 3 marks)

3 Simplify  $7 \times e \times f \times 8$

(1)

June 2017 – Paper 1F

(Total for Question 3 is 1 mark)

4 Simplify  $7a + a - 5a$



June 2024 – Paper 3F

(Total for Question 4 is 1 mark)

4 Simplify  $3 \times 4t$



June 2023 – Paper 2F

(Total for Question 4 is 1 mark)

4 Simplify  $2m \times 3$



June 2022 – Paper 3F

(Total for Question 4 is 1 mark)

4 (a) Simplify  $m + m + m + m$



(1)

(b) Simplify  $12p \div 4$

(1)

November 2021 – Paper 2F

(Total for Question 4 is 2 marks)

4 (a) Simplify  $5f - f + 2f$



(1)

(b) Simplify  $2 \times m \times n \times 8$

(1)

(c) Simplify  $t^2 + t^2$

(1)

Specimen 1 – Paper 2F

(Total for Question 4 is 3 marks)

5 Complete the statement below to make it correct.



.....  $\times m = 2m$

May 2024 – Paper 2F

(Total for Question 5 is 1 mark)

5 Simplify  $3 \times w \times 5 \times t$

November 2022 – 1F

(Total for Question 5 is 1 mark)

6 (a) Simplify  $3 \times 4t$

.....  
(1)

(b) Simplify  $8a - 3a + 2a$

.....  
(1)

May 2018 – Paper 1F

(Total for Question 6 is 2 marks)

6 (a) Simplify  $a \times b \times 4$



.....  
(1)

(b) Simplify  $4x + 3 - x + 5$

.....  
(2)

November 2021 – Paper 3F

**(Total for Question 6 is 3 marks)**

7 (a) Simplify  $3m - m - m + 3m$



.....  
(1)

(b) Simplify  $2 \times n \times p \times 4$

.....  
(1)

November 2018 – Paper 2F

**(Total for Question 7 is 2 marks)**

8 (a) Simplify  $a \times b \times 7$



.....  
(1)

(b) Simplify  $y \times y \times y$

.....  
(1)

(c) Simplify fully  $\frac{e \times e \times e \times f}{e \times e \times f \times f}$

.....  
(2)

June 2019 – Paper 2F

**(Total for Question 8 is 4 marks)**

9 Simplify  $4e + 6f + 7e - f$



June 2019 – Paper 3F

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

13 (a) Simplify  $8h^3 + 14h^3 - 2h^3$



.....  
(1)

(b) Simplify  $(9y + 12y) \div 3$

.....  
(1)

November 2023 – Paper 3F

**(Total for Question 13 is 2 marks)**

13 (a) Simplify  $\frac{15a}{3}$

.....  
(1)

(b) Simplify  $19 + 5b + 4c - 7b + c$

.....  
(2)

June 2023 – Paper 1F

**(Total for Question 13 is 3 marks)**

13 (a) Simplify  $2a \times 5b$

.....  
(1)

(b) Simplify  $3x + 2y + 5x - y$

.....  
(2)

November 2019 – Paper 1F

**(Total for Question 13 is 3 marks)**



13 (a) Simplify  $2c \times 3d$

.....  
(1)

$$T = x + 2y$$

$$x = 3 \text{ and } y = -4$$

(b) Work out the value of  $T$ .

$T =$  .....  
(2)

June 2024 – Paper 2F

**(Total for Question 13 is 3 marks)**

14 Simplify  $3x + 5y + 2x - 4y$



.....  
(2)

May 2020 – Paper 3F

**(Total for Question 14 is 2 marks)**

14 Simplify  $4c + 7d + 3c - d$



.....  
(2)

November 2022 – 2F

**(Total for Question 14 is 2 marks)**

17 (a) Simplify  $7x + 2y - 3x + 4y$



.....  
(2)

Specimen 2 – Paper 2F

**(Total for Question 17 is 2 marks)**