Name	Date started	Target end date

WJEC GCSE Mathematics and Numeracy (Double Award) — Question Pack

Forming simple linear equations from words or diagrams and solving them, including equations with brackets or the unknown on both sides. Sourced from

REVISE
.wales

F1.19 — Forming & solving simple linear equations

Spec 2.1.1, 2.1.2, 2.1.3, 2.1.5, 2.1.6, 2.1.7, 2.2.1 — Unit 1 (calculator allowed)

Forming simple linear equations from words or diagrams and solving them, including equations with brackets or the unknown on both sides. Sourced from legacy WJEC GCSE Mathematics-Numeracy Foundation papers (3300U10/U20) and accessible content from Intermediate papers (3300U30/U40), organised for revision under the 2025 spec.

2025 SPECIFICATION

Estimated time for entire question pack: ~39 minutes

*Derived from the GCSE Higher pace of **~1.5 min/mark** (26 marks across 10 questions).*

*You are advised to **not** attempt to complete all of this in one sitting.*

ABOUT THIS QUESTION PACK

This is a **focused single-topic practice pack**, not a single mock paper. Questions are organised against the 2025 specification. Questions are ordered chronologically by sitting, with custom-written and SAM questions at the end.

INSTRUCTIONS

Use black ink or black ball-point pen. Show all working — method marks are awarded for clear setup.

A calculator is allowed on every question in this pack (Unit 1 is the calculator-allowed paper).

Forming & solving simple linear equations — what the new spec asks

WJEC GCSE Mathematics (first teaching 2025) · Unit 1: calculator-allowed.

Forming equations 2.1.1

- Use letters to represent unknown numbers in word problems.
- Translate a worded statement into a linear equation.
- Use a diagram (e.g. perimeter) to form an equation.

Solving linear equations 2.1.5

- Solve one- and two-step equations with the unknown on one side.
- Solve equations with brackets by first expanding.
- Solve equations with the unknown on both sides.

Substitution 2.2.1

- Substitute a value into an expression to evaluate it.
- Check a solution to an equation by substitution.
- Use substitution in formulae from other topics.

Exam strategy 2.1

- Always do the same operation to both sides.
- Write each line of working underneath the previous one.
- Substitute the answer back to verify the equation balances.

Crib sheet »

Forming & solving simple linear equations in one page

Quick-reference notes — revisit before each question. Don’t use during the questions.

One-step equations

Use the inverse operation on both sides.

$x + 5 = 12 \rightarrow x = 7$.

$3x = 21 \rightarrow x = 7$.

Two-step equations

Undo + or − first, then × or ÷.

$2x + 5 = 17 \rightarrow 2x = 12 \rightarrow x = 6$.

Brackets

Expand first, then solve.

$3(x + 4) = 21 \rightarrow 3x + 12 = 21 \rightarrow 3x = 9 \rightarrow x = 3$.

Unknown on both sides

Move the smaller x-term to the other side first.

$5x - 2 = 2x + 10 \rightarrow 3x = 12 \rightarrow x = 4$.

Forming an equation

Let the unknown = a letter (e.g. n).

Translate each sentence into algebra.

e.g. 'three more than twice a number is 17' → $2n + 3 = 17$.

Common traps

- Doing the operation on one side only.
- Forgetting to expand brackets.
- Sign errors when moving terms across.

Examiner only

14. *(a)* Simplify the expression $15x - 2y - 7x - 4y$. [2]

(b) Solve the equation $2m - 7 = 12$. [2]

(c) Calculate the value of $5f + 3g$ when $f = -4$ and $g = 7$. [2]

Examiner only

3. *(a)* Calculate the value of $3x + 4y$ when $x = -6$ and $y = 5$. [2]

(b) Simplify the expression $9g - 4f - 3g - 5f$. [2]

(c) Solve the equation $3m - 7 = 8$. [2]

(d) Expand $4(3x - 5)$. [1]

Examiner only

5. *(a)* Solve the equation $4x + 7 = 10$. [2]

(b) Simplify $8d - 6e - 3d + 4e$. [2]

6. *PQ* and *RS* are parallel.

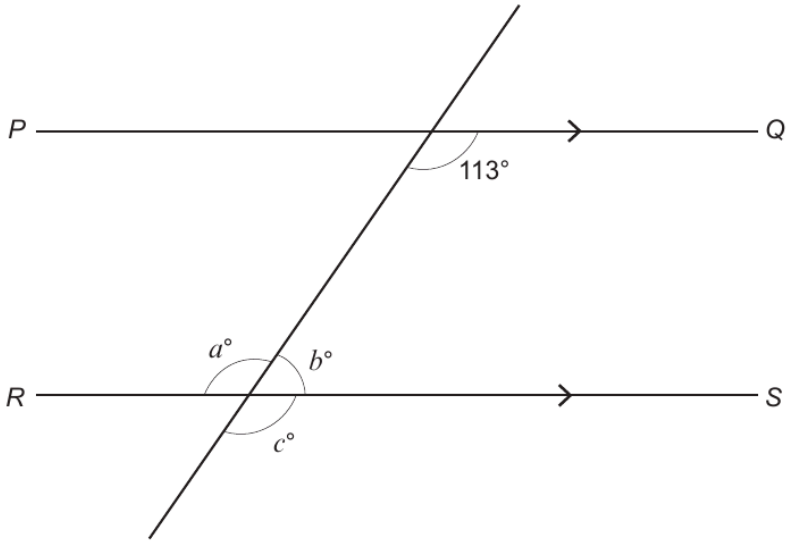


Diagram not drawn to scale

Find the values of a, b and c. [3]

$a =$ ..... $b =$ ..... $c =$ .....

Examiner only

9. *(a)* Simplify the expression $9g - 5g + 12g$. [1]

(b) Solve the equation $5y = 45$. [1]

(c) Solve the equation $w - 16 = 14$. [1]

(d) Solve the equation $4x + 7 = 10$. [2]

Examiner only

5. Andrew and Grace each have some £10 notes and £5 notes.
Andrew has 6 notes. The total value of Andrew's notes is £55.
Grace has 5 notes. The total value of Grace's notes is £35.

How many £10 notes do they have in total?
How many £5 notes do they have in total? [3]

Total number of £10 notes = ... Total number of £5 notes = ...

6. (a) Solve the equation $7p - 3 = 60$. [2]

(b) Simplify the expression $6a - 7b - 2a - 8b$. [2]

Examiner only

15. Andrew and Grace each have some £10 notes and £5 notes.
Andrew has 6 notes. The total value of Andrew's notes is £55.
Grace has 5 notes. The total value of Grace's notes is £35.

How many £10 notes do they have in total?
How many £5 notes do they have in total? [3]

Total number of £10 notes = ... Total number of £5 notes = ...

16. (a) Solve the equation $7p - 3 = 60$. [2]

(b) Simplify the expression $6a - 7b - 2a - 8b$. [2]

Examiner only

13. (a) Solve the equation $3x - 10 = 17$. [2]

(b) Simplify $6f - 4g + 2f - 9g$. [2]

14. (a) Which of the following is nearest in mass to 5 kg?
Circle the correct answer. [1]

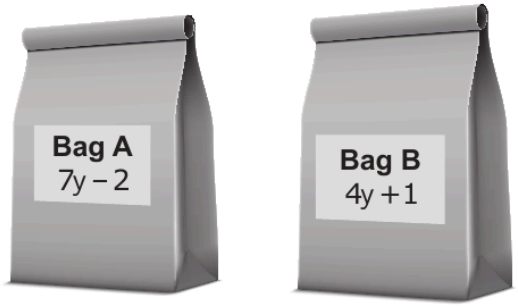
7 lb 11 lb 15 lb 19 lb 23 lb

(b) Which of the following is nearest in volume to 100 litres?
Circle the correct answer. [1]

100 pints 125 pints 150 pints 175 pints 200 pints

Examiner only

8. There are $7y-2$ counters in Bag A.
There are $4y+1$ counters in Bag B.



9 counters are added to Bag B.
There are now the same number of counters in each bag.

Form an equation in terms of y.
Solve the equation to find the value of y.
You must show all your working. [4]

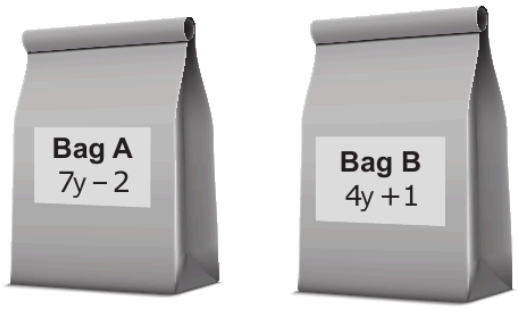
9. A cup contains some tea.

Elsie drinks $\frac{5}{7}$ of the tea.

There are 44 ml of tea left in the cup.
How much tea was in the cup before Elsie drank any? [2]

Examiner only

18. There are $7y-2$ counters in Bag A.
There are $4y+1$ counters in Bag B.



9 counters are added to Bag B.
There are now the same number of counters in each bag.

Form an equation in terms of y.
Solve the equation to find the value of y.
You must show all your working. [4]

END OF PAPER

Examiner only

13. The diagram below shows a shape made by joining two rectangles together.
The area of the whole shape is 89 cm^2.

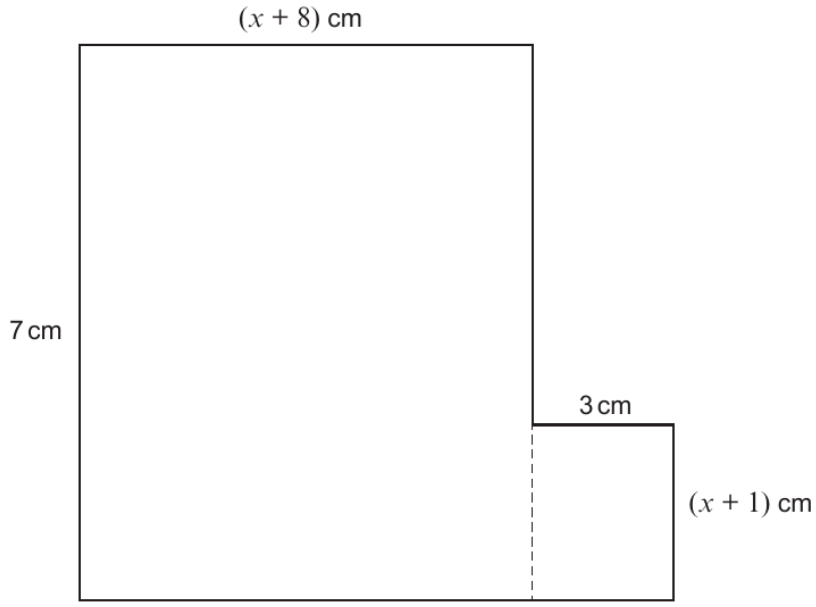


Diagram not drawn to scale

Form and solve an equation to find the value of x. [5]