

## 11+ PRACTICE PACK

# Bond Maths Test

## 11+ Maths Complete Practice Pack

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PRACTISE THE REAL THING

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## Bond Fourth level papers in Maths 10–11+ years – Sample test

- 1 If 6 people do a certain job in 8 hours, how long will it take 16 people, working at the same speed? \_\_\_\_\_

B 3

1

Find the mean of each of the following sets of numbers.

2 8      10      3      7      \_\_\_\_\_

3 6      2      7      1      4      \_\_\_\_\_

4 8      10      3      5      3      13      \_\_\_\_\_

B 15

3

Multiply each of the numbers below by 1000.

5 41.5      \_\_\_\_\_

6 0.082      \_\_\_\_\_

7 3.86      \_\_\_\_\_

B 1

3

- 8 What would be the approximate cost of 15 CDs at £5.98 each (to the nearest £)? \_\_\_\_\_

B 3

1

- 9 Sue divided a number by 8 rather than multiplying it. Her answer was 12. What was the number? \_\_\_\_\_

B 3

1

10–14 Arrange the fractions in order of size, putting the largest first.

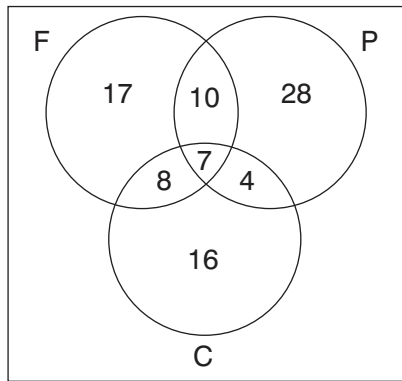
$\frac{5}{8}$        $\frac{2}{3}$        $\frac{3}{4}$        $\frac{1}{2}$        $\frac{5}{6}$

\_\_\_\_\_

B 3

5

Some children made this Venn diagram of the food they prefer.



F = fish  
P = pizza  
C = chicken

- 15–17 \_\_\_\_\_ children like fish, \_\_\_\_\_ like pizza and \_\_\_\_\_ like chicken.
- 18 The number of children who like both fish and pizza is \_\_\_\_\_
- 19 How many children don't like pizza? \_\_\_\_\_
- 20 How many children altogether were counted in the diagram? \_\_\_\_\_

21–23 £12 is shared between Emily, Claire and Jo in the ratio of 9 : 5 : 2.  
How much do they each receive?

Emily \_\_\_\_\_ Claire \_\_\_\_\_ Jo \_\_\_\_\_

24 11 toys were bought for £2.15 each and sold for £3.50.

What was the total profit? \_\_\_\_\_

Underline the correct answer in each line.

25  $\frac{1}{6} + \frac{1}{3} =$                   $\frac{1}{9}$        $\frac{2}{9}$        $\frac{3}{6}$        $\frac{1}{18}$

26  $3.00 - 1.66 =$                  1.44      0.34      4.66      1.34

27  $0.2 \times 0.2 =$                  0.08      0.4      0.04      0.22

28  $4 \div 0.8 =$                  0.2      0.5      0.32      5

B 14

B 2

6

B 13

3

B 4

B 2  
B 3

1

B 10

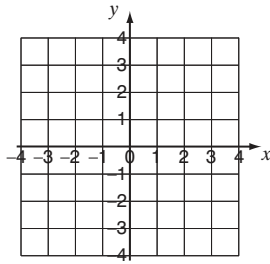
B 11

B 11

B 3  
B 11

4

29–33 Plot the points (3, 1), (3, –3), (–1, 1) on the grid.



These points are the vertices of a square.  
Mark the fourth vertex and draw the square.

34–35 The coordinates of the fourth vertex are (\_\_\_\_, \_\_\_\_).

36–37 The coordinates of the centre of the square are (\_\_\_\_, \_\_\_\_).

Change these 24-hour times into 12-hour times using a.m. or p.m.

38 18:17 \_\_\_\_\_

39 05:03 \_\_\_\_\_

40 21:19 \_\_\_\_\_

41–43 The ages of Grandma, Aunt Jane and Sara add up to 119 years. Grandma is twice as old as Aunt Jane, and Aunt Jane is twice as old as Sara.

Grandma is \_\_\_\_\_ years old, Aunt Jane \_\_\_\_\_ years old and Sara is \_\_\_\_\_ years old.

6  $6 = 6^2$      $3 \ 3 \ 3 = 3^3$ .    Now write these numbers in the same way.

44  $10 \ 10 \ 10 =$  \_\_\_\_\_

45  $5 \ 5 \ 5 \ 5 =$  \_\_\_\_\_

46  $8 \ 8 \ 8 \ 8 \ 8 =$  \_\_\_\_\_

47  $4 \ 4 \ 4 \ 4 =$  \_\_\_\_\_

48  $1 \ 1 \ 1 \ 1 \ 1 \ 1 =$  \_\_\_\_\_

49 Find the area of a room which is 6 metres long and 9 metres wide.

\_\_\_\_\_

50 What is the perimeter of the room?

\_\_\_\_\_

Now go to the Progress Chart to record your score!

Total **50**

# Paper Notes: 11+ Maths Question Booklet (Maths Test)

Compiled by [SATs-Papers.co.uk](https://www.SATs-Papers.co.uk) to help you get the most from this paper.

## Overview

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This is a **Bond Fourth Level Maths** practice paper designed for children aged **10 to 11 years** preparing for the **11+ entrance examination**. Published by **Bond Assessment Papers** in association with **Nelson Thornes**, it provides a realistic test experience modelled on **GL Assessment** style questions. The paper contains **50 marks' worth of questions** covering a broad range of mathematical skills expected at this level.

The format mixes straightforward calculations with multi-step word problems, data interpretation, and spatial reasoning tasks. Questions include finding means, ordering fractions, interpreting Venn diagrams, working with ratios, coordinate geometry, and index notation. Many questions award multiple marks, requiring students to show working or complete several related parts.

This paper suits children in Year 6 who are preparing for selective grammar or independent school entrance tests. It is also valuable for general revision of upper Key Stage 2 mathematics. The variety of question types means that students practising with this paper will encounter the breadth of topics and problem formats typical of competitive 11+ examinations.

## How this paper is organised

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The paper is divided into **50 individual marks** spread across approximately 30 question stems. Some questions are single-mark items (such as multiplying decimals by 1000), while others carry up to **six marks** for multi-part problems (for example, the Venn diagram analysis). Each question is labelled with its mark allocation in the right-hand margin, helping students gauge the expected depth of their response.

The layout progresses from relatively straightforward arithmetic and mean calculations at the start, through fraction ordering and word problems in the middle section, to more complex tasks involving coordinate geometry, ratio sharing, and index notation towards the end. A grid is provided for the coordinate question (questions 29 to 37), and multiple-choice style questions appear in questions 25 to 28, where students must underline the correct answer from four options.

There is no explicit time limit printed on the paper, but Bond papers at this level are typically designed to be completed in around **50 minutes**. Students should aim for roughly one mark per minute, leaving a few minutes at the end to check answers and ensure that multi-mark questions have been fully addressed.

## Topics covered

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- Inverse proportion and work rate problems (calculating time for different numbers of workers)
- Mean (average) calculations for sets of numbers with varying list lengths
- Multiplying decimals by powers of ten (specifically by 1000)
- Estimation and approximation in real-world contexts (rounding prices to the nearest pound)
- Reverse operations and problem solving (finding the original number when division is mistakenly applied)
- Ordering and comparing fractions with different denominators
- Venn diagram interpretation (three-set diagrams showing overlapping preferences)
- Sharing amounts in given ratios (dividing money between three people)
- Profit and loss calculations involving multiple items
- Addition, subtraction, multiplication, and division with fractions and decimals (multiple-choice format)
- Coordinate geometry in four quadrants (plotting points, identifying vertices, and finding the centre of a square)
- Converting between 24-hour and 12-hour clock formats (including a.m. and p.m.)
- Solving age problems using ratio relationships (simultaneous equations approach)
- Index notation and expressing repeated multiplication using powers
- Area and perimeter of rectangles with measurements in metres

## How to use this paper for revision

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- Practise converting fractions to a common denominator quickly, as question 10 to 14 requires ordering five fractions and carries five marks.
- Revise the rules for multiplying and dividing by powers of ten, paying close attention to decimal point movement. Questions 5 to 7 test this directly.
- When tackling Venn diagrams, always start by identifying the central overlap (all three sets) and work outwards to avoid double-counting.
- For word problems involving ratios, write out the ratio parts clearly and calculate the value of one part before finding each person's share.
- Check your profit and loss calculations by working through the problem in stages: total cost, total revenue, then subtract to find profit.
- When plotting coordinates, always count carefully from the origin and remember that the x-coordinate comes first, then the y-coordinate.
- For multiple-choice questions, eliminate obviously incorrect answers first, then test the remaining options to save time.

## Common mistakes to avoid

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- In question 1, students often forget that more workers complete a job faster, so they multiply instead of dividing. The total work ( $6 \times 8 = 48$  person-hours) stays constant.
- When finding the mean, children sometimes add the numbers correctly but forget to divide by how many numbers there are, or miscount the list length.
- Multiplying by 1000 trips up students who move the decimal point the wrong way or by the wrong number of places. Remember: multiply makes the number bigger, so move right.
- In Venn diagram questions, double-counting is very common. The number who like both fish and pizza includes those who like all three, not just the overlap of two circles.
- For ratio problems, students often share the total by the number of people rather than the sum of the ratio parts. Always add the ratio numbers first ( $9 + 5 + 2 = 16$ ).
- Coordinate errors include plotting  $(x, y)$  as  $(y, x)$  or miscounting when negative numbers are involved. Always start from the origin and move carefully along each axis.

## Exam technique

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Begin by reading through the entire paper quickly to identify which questions you find straightforward and which will need more thought. Tackle the quick-win questions first (such as the decimal multiplications and time conversions) to build confidence and bank easy marks. Leave complex multi-step problems, like the Venn diagram or the age puzzle, until you have secured the easier marks.

For questions worth multiple marks, always show your working clearly. Even if your final answer is incorrect, you may earn method marks for a correct approach. Write any calculations in the space provided rather than trying to do everything mentally. This also makes it easier to spot mistakes when you check your work.

Keep an eye on time by noting how many marks you have completed roughly every ten minutes. If you get stuck on a tricky question, move on and return to it later rather than spending too long on a single item. In the final few minutes, prioritise checking multi-mark questions (especially ratio, Venn diagram, and coordinate problems) where small errors can lose several marks at once.

## What to revise alongside this paper

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Students working through this paper should ensure they are confident with equivalent fractions, as the ability to convert fractions to a common denominator underpins both ordering tasks and fraction arithmetic. Practise simplifying fractions and converting between improper fractions and mixed numbers as well, since these skills appear frequently in 11+ papers.

Coordinate geometry at this level often extends to reflections, rotations, and translations on a grid, so once comfortable plotting points and identifying shapes, move on to transformation questions. Understanding symmetry and recognising the properties of quadrilaterals (especially squares, rectangles, and parallelograms) will support both geometry and problem-solving questions.

For students finding the problem-solving questions challenging, build confidence by working through more ratio, proportion, and multi-step word problems. Topics such as speed, distance, time, and best-buy problems use similar reasoning. Strengthening mental arithmetic, especially with decimals and percentages, will also speed up calculation-heavy questions and reduce reliance on written methods under time pressure.

## Key terms

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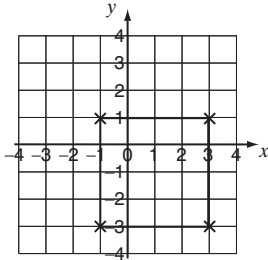
**Mean, Inverse proportion, Common denominator, Venn diagram, Ratio, Profit, Coordinate, Vertex, Index notation, Powers, 24-hour clock, Perimeter, Area, Estimation, Approximation**

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For more free 11+ practice papers, past papers and online practice tests, visit [SATs-Papers.co.uk](https://www.SATs-Papers.co.uk).

Bond Fourth level papers in Maths 10–11<sup>+</sup> years – Answers to sample test

- 1 3 hours  
 2 7  
 3 4  
 4 7  
 5 41500  
 6 82  
 7 3860  
 8 £90  
 9 96  
 10–14  $\frac{5}{6}$ ,  $\frac{3}{4}$ ,  $\frac{2}{3}$ ,  $\frac{5}{8}$ ,  $\frac{1}{2}$   
 15–17 42, 49, 35  
 18 17  
 19 41  
 20 90  
 21–23 Emily £6.75, Claire £3.75, Jo £1.50  
 24 £14.85  
 25  $\frac{3}{6}$   
 26 1.34  
 27 0.04  
 28 5  
 29–33

34–35  $-1, -3$ 36–37  $1, -1$ 

38 6:17 p.m.

39 5:03 a.m.

40 9:19 p.m.

41–43 Grandma 68, Aunt Jane 34, Sara 17

44  $10^3$ 45  $5^4$ 46  $8^5$ 47  $4^4$ 48  $1^6$ 49  $54\text{m}^2$ 

50 30m

# Answer-Key Notes: 11+ Maths Answers (Maths Test)

Compiled by [SATs-Papers.co.uk](https://www.SATs-Papers.co.uk) to help you mark this paper and learn from each answer.

## How to use this answer key

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This Bond sample-test mark scheme lists answers but rarely shows working, so the explanations below reconstruct the **reasoning and calculation steps** that lead to each correct answer.

Mark the paper by awarding one mark per line-number shown in the right-hand margin of the answer key. **Distinguish careless slips from genuine gaps:** if a student writes '£8.97' when the correct answer is '£9.00', they have probably understood the method but rounded carelessly; if they write '£60.00', they have misunderstood the question.

Consult the worked examples below whenever you cannot see why an answer is what it is, or when you want to show a student the route to the correct answer. The examples focus on the trickiest or most instructive questions in each section.

## Score interpretation

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The paper carries **50 marks** and covers a wide range of topics typical of 11+ entrance: inverse operations, mean, decimals, fractions, ratios, Venn diagrams, coordinates, time conversion, index notation, and mensuration. A score above 40 (80 per cent) is excellent and shows confidence across all these areas. Between 30 and 39 (60–78 per cent) is solid and suggests only a few gaps to close. Below 30 indicates that several topics need systematic revision.

Pay particular attention to **multi-part questions** (for example Q10–14, Q21–23, Q29–37, Q41–43): these are worth several marks apiece and often penalise one mistake across all parts. If a student loses all five marks on Q10–14, they may simply need more practice converting fractions to a common denominator, not five separate interventions.

Because the answer key supplies only final answers, students who reach the right answer by an incorrect method will still earn the mark. Use the worked examples below to check understanding if you suspect guesswork or fluke.

## Worked examples

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### Inverse operations and mean, Q1–4

These opening questions test whether students can **reverse a calculation** (Q1, Q9) and compute the mean of a small data set. Marks are lost when students confuse 'mean' with 'median' or 'mode', or when they fail to recognise that dividing by 8 is the inverse of multiplying by 8. Show all working, especially in Q1, where the reasoning is not obvious at first glance.

**Q1** : 3 hours

The job requires  $6 \times 8 = 48$  person-hours. With 16 people, the time is  $48 \div 16 = 3$  hours. Students often write '21.3 hours' by adding  $6 + 8 + 16$  or similar; **the key is to find the total work first**, then divide by the new number of workers.

**Q9** : 96

Sue divided the number by 8 and got 12, so the original number is  $12 \times 8 = 96$ . Students who multiply 12 by 8 again ('768') have not understood that division and multiplication are **inverse operations**.

### Fractions and Venn diagrams, Q10–23

Questions 10–14 require students to **convert all five fractions to a common denominator** (24 is convenient here) before ordering them. The Venn diagram (Q15–20) tests careful reading: the central region (7) represents children who like all three foods, not just two. Q21–23 ask for ratio division; students must first find the total number of parts ( $9 + 5 + 2 = 16$ ), then calculate one part's value ( $\pounds 12 \div 16 = \pounds 0.75$ ) before multiplying up.

**Q10–14** :  $5/6$ ,  $3/4$ ,  $2/3$ ,  $5/8$ ,  $1/2$

Convert to twenty-fourths:  $20/24$ ,  $18/24$ ,  $16/24$ ,  $15/24$ ,  $12/24$ . The largest fraction is  $20/24$  (which is  $5/6$ ), then  $18/24$  ( $3/4$ ), and so on. **Common mistakes**: ordering by numerator only (ignoring the denominator) or by denominator only (assuming smaller denominators are larger fractions).

**Q18** : 17

The region where circles F and P overlap (but not C) is labelled 10; the central region where all three overlap is labelled 7. The total who like both fish and pizza is  $10 + 7 = 17$ . Students who answer '10' have **forgotten to include the centre**.

**Q21–23** : Emily £6.75, Claire £3.75, Jo £1.50

The ratio 9 : 5 : 2 sums to 16 parts. One part is  $£12 \div 16 = £0.75$ . Emily receives  $9 \times £0.75 = £6.75$ ; Claire  $5 \times £0.75 = £3.75$ ; Jo  $2 \times £0.75 = £1.50$ . **Check by adding:**  $£6.75 + £3.75 + £1.50 = £12.00$ .

### Decimal and fraction calculations, Q24–28

Question 24 is a two-stage profit problem: calculate total cost, total revenue, then subtract. Questions 25–28 are multiple-choice but **require working** to avoid traps. For example, Q25 tests addition of fractions with different denominators (common denominator 6), and Q28 tests understanding that  $4 \div 0.8$  is the same as  $4 \times 1.25$ . Students who select the first plausible-looking answer often choose a distractor.

**Q24** : £14.85

Cost:  $11 \times £2.15 = £23.65$ . Revenue:  $11 \times £3.50 = £38.50$ . Profit:  $£38.50 - £23.65 = £14.85$ . Students who write '£1.35' have found the profit **per toy** ( $£3.50 - £2.15$ ) but forgotten to multiply by 11.

**Q28** : 5

$4 \div 0.8 = 4 \times 10 \div 8 = 40 \div 8 = 5$ . Alternatively,  $4 \div 0.8$  means 'How many 0.8s in 4?', which is 5. **Do not select 0.32** (the result of  $4 \times 0.8$ ) or 0.5 (the result of  $4 - 3.5$  or similar confusion).

### Coordinates, transformations and time, Q29–40

Questions 29–37 form a single extended task: plot three vertices of a square, deduce the fourth, then find the centre. **The fourth vertex must make all sides equal and all angles 90°**; students often guess (3, -1) or (1, -3) without checking distances. The time-conversion questions (Q38–40) are straightforward but students sometimes write '6:17 a.m.' for 18:17, forgetting that 18:00 is six hours *after* noon.

**Q34–35** : (-1, -3)

The three given vertices are (3, 1), (3, -3), (-1, 1). Drawing these shows a vertical line from (3, 1) to (3, -3) and a horizontal line from (-1, 1) to (3, 1). **The missing vertex is (-1, -3)**, which completes the square. Check: all sides have length 4, and all angles are right angles.

**Q36–37** : (1, -1)

The centre of a square is the midpoint of either diagonal. The diagonal from (3, 1) to (-1, -3) has midpoint  $((3 + (-1)) \div 2, (1 + (-3)) \div 2) = (1, -1)$ . **Common mistake:** taking the midpoint of one side rather than the diagonal.

### Word problems: ages, indices and mensuration, Q41–50

Question 41–43 is an algebra problem in disguise: if Sara is  $s$ , then Aunt Jane is  $2s$  and Grandma is  $4s$ , so  $4s + 2s + s = 119$ , giving  $s = 17$ . Questions 44–48 test index notation; **count the number of times the base appears**, so  $10 \times 10 \times 10 = 10^3$ . Area and perimeter (Q49–50) are routine but students sometimes confuse the formulae or forget to include units.

**Q41–43** : Grandma 68, Aunt Jane 34, Sara 17

Let Sara's age be  $s$ . Then Aunt Jane is  $2s$  and Grandma is  $2 \times 2s = 4s$ . Total:  $s + 2s + 4s = 7s = 119$ , so  $s = 17$ . **Check:**  $17 + 34 + 68 = 119$ , and 34 is twice 17, 68 is twice 34.

**Q48** :  $1^6$

$1 \times 1 \times 1 \times 1 \times 1 \times 1 = 1^6$ . Although 1 to any power is still 1, the notation captures **how many times 1 is multiplied by itself**. Students sometimes write '1' without the exponent, which is correct as a final answer but does not follow the 'same way' instruction.

**Q50** : 30 m

Perimeter of a rectangle is  $2 \times (\text{length} + \text{width}) = 2 \times (6 + 9) = 2 \times 15 = 30$  m. **Students who write '54 m' have calculated the area again;** those who write '15 m' have forgotten to double.

### Next steps

Once you have marked the paper, **group mistakes by topic** rather than working through errors in question order. For example, if Q1, Q9 and Q24 are all wrong, focus practice on multi-step word problems and inverse operations. If Q10–14 and Q25 both failed, revise fractions and common denominators. The Bond 'How to Do' books and CGP 11+ study guides both offer topic-by-topic exercises.

If the score is above 40, use past papers from GL Assessment or CEM (whichever your target school favours) to maintain speed and accuracy under timed conditions. If the score is below 30, slow down: work through one or two topics at a time using a textbook (for example, CGP 11+ Maths Study Book), then return to mixed practice

papers once confidence improves. Retake this paper in two to three weeks to check that learning has stuck.

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