

## 11+ PRACTICE PACK

# OWL Tuition Test 6

## 11+ Maths Complete Practice Pack

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PRACTISE THE REAL THING

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**11 Plus**

**Paper [ 6 ]**

**Maths - Non Calculator**

**Total marks: [ 40 ]**

**Time allowed: 60 minutes**

**You have 1 hour.**

**There are 40 marks available. Try to answer all the questions. Remember to show your working out.**

**Each question is worth one mark unless otherwise stated.**

**No calculators are allowed.**

**Full name** \_\_\_\_\_

**Questions**

1. Ben has a flowerbed which is shaped exactly like a square. What is the size of one of the angles on his flowerbed?

2. Erisha has a five pound note, two one pound coins, three ten pence pieces and five two pence pieces. How much does she have altogether?

3. Complete the following table by placing the correct words into it from the list below (5 marks):

**Seven sides    Pentagon    Quadrilateral    Scalene    Angle**

Five sides			Triangle	
	Heptagon	Trapezium		Obtuse

4. Ranjit has a Maths book with 236 pages. How many pages is this to the nearest ten?

5. Solve the following:

a.  $192 - 111$

b.  $99 \div 22$

c.  $8967 + 4256$

d.  $13 \times 25$

e.  $3 + (2 \times 5) - 7$

6. Amaya cuts her birthday cake into twelve equal slices. She gives one third to Caleb, and one quarter to Rebecca. How many slices does Amaya have left? (2 marks)

7. Ed has a ten pound note. He spends £6.57. How much does he have left?

8. Which of the following numbers are prime numbers? (2 marks)

3    47    9    22    63    58

9. Here are the scores of seven matches played by Wincheap United. What was their mean score?

4    5    4    8    5    3    6

10. Blueberry smoothie contains 20% protein. If the bottle measures 200ml, how much protein is in the smoothie?

11. Here is a bus timetable. Answer the questions that follow (5 marks)

Plant Street	0800	0820	0840	0910
Cabbage Road	0803	0823	0843	0913
Carrot Lane	0810	0830	0850	0920
Beetroot Close	0843	0903	0923	0953

- How long does it take for the bus to go from Plant Street to Beetroot Close?
- Claire wants to get to Carrot Lane at 0828. Which bus should she catch from Cabbage Road?
- Alan arrives at Cabbage Road at 0825. When is the next bus to Beetroot Close?
- How long does the bus take to go from Carrot Lane to Beetroot Close?
- Mark needs to get to work at Carrot Lane by 0900. Which bus should he catch from Plant Street?

12. In Helsinki the average temperature is  $-10^{\circ}$  in December. In London it is  $2^{\circ}$ . What is the difference between the temperatures?

13. Solve the following:

- $-2 - -1$
- $36 + (-9)$
- $-4 - -87$
- $98 \times (-2)$

e.  $8 \div (-4)$

14. Nils thinks of a number. He multiplies it by four, adds six and then divides by two. His answer is 231. What number was he thinking of? (2 marks)

15. A leaking pipe is dripping water at a rate of 300ml per minute. How much water will drip out in two hours? Give your answer in litres. (2 marks)

16. Express this fraction in its simplest form:

$$\frac{36}{360}$$

17. What is 0.5 as a percentage?

18. Which of the following is likely to be the weight of a can of chickpeas?

100kg

5g

350g

2kg

19. What is the square root of 64?

20. How many metres are in 4.5 kilometres?

# Paper Notes: 11+ Maths Question Booklet (Test 6)

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 **Paper 6** from **Owl Tutors**, a 60-minute non-calculator maths paper designed for **11+ entrance preparation**. It contains **20 questions** worth a total of **40 marks**, meaning several questions carry multiple marks for more complex working. The paper follows the **GL Assessment** format and is aimed at Year 6 pupils preparing for selective school entry.

The content spans **arithmetic, geometry, fractions, percentages, negative numbers, problem solving and basic statistics**. Questions range from simple recall (such as the angles in a square) to multi-step word problems involving rates, time and unit conversion. A bus timetable question and a reverse calculation problem require careful logical reasoning. The emphasis is on showing working out, with no calculator permitted.

This paper suits pupils who have completed most of the Year 6 curriculum and are comfortable with foundational concepts. It rewards methodical working and clear arithmetic, whilst also testing whether students can apply knowledge in unfamiliar contexts. The mix of one-mark and two-mark questions allows quick wins alongside more demanding challenges.

## How this paper is organised

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The paper comprises **20 questions** carrying **40 marks in total**, to be completed in **60 minutes**. Most questions are worth one mark, but several carry two marks (Question 6, Question 8, Question 14 and Question 15), and Question 3 and Question 11 each carry **five marks** because they involve multiple sub-parts or require several correct answers. This means students should allocate time carefully, recognising that higher-mark questions will require more steps or reasoning.

Questions are numbered sequentially and each is printed with space for working beneath. The front page provides clear instructions: no calculators, show all working, and 60 minutes allowed. Question 5 contains five sub-parts (a to e) testing different operations, and Question 11 (the bus timetable) has five sub-questions. Question 13 similarly has five sub-parts on negative number arithmetic.

The layout is clean and uncluttered, with generous white space for pupils to write calculations. The final questions on page 3 are shorter, allowing faster completion if

time is tight. Overall, the structure rewards those who read instructions carefully and manage their time according to the mark weighting of each question.

## Topics covered

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- Properties of 2D shapes, including angles in squares and polygon names (pentagon, heptagon)
- Money arithmetic involving notes and coins of different denominations
- Vocabulary of shape and angle types: quadrilateral, trapezium, scalene triangle, obtuse angle
- Rounding whole numbers to the nearest ten
- The four operations: subtraction, division, addition and multiplication, including multi-digit examples
- Order of operations (BIDMAS/BODMAS) with brackets and mixed operations
- Fractions of quantities applied to real-life contexts (slices of cake)
- Subtraction with money using decimal notation
- Prime numbers and recognising composite numbers
- Mean (average) calculated from a data set
- Percentage of a quantity (finding 20% of 200ml)
- Reading and interpreting a bus timetable, calculating journey durations and selecting appropriate departure times
- Temperature difference across zero, comparing negative and positive integers
- Arithmetic with negative numbers: subtraction of negatives, addition of negatives, multiplication and division involving negatives
- Reverse problem solving (working backwards from a final answer through multiple operations)
- Rate problems involving unit conversion (millilitres per minute to litres over hours)
- Simplifying fractions to their lowest terms
- Converting decimals to percentages
- Estimating realistic weights of everyday objects
- Square roots of perfect squares
- Metric unit conversion between kilometres and metres

## How to use this paper for revision

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- Practise the four operations with numbers up to 10,000 without a calculator, focusing on carrying and borrowing in column methods.
- Learn the properties of common 2D shapes by heart (number of sides, types of angles, definitions of quadrilaterals and polygons).
- Revise prime numbers up to 100 and be able to quickly spot whether a number has factors other than 1 and itself.
- Work through multi-step word problems by identifying what you know, what you need to find, and the operations required in sequence.
- For questions involving negatives, draw a number line or use coloured counters to visualise addition and subtraction of negative values.
- Memorise common fraction-decimal-percentage equivalents (e.g.  $\frac{1}{2} = 0.5 = 50\%$ ,  $\frac{1}{4} = 0.25 = 25\%$ ) to speed up conversions.
- Practise reading timetables by calculating durations between stops and working out which service to catch to arrive by a given time.

## Common mistakes to avoid

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- Forgetting to follow BIDMAS order of operations, especially multiplying before adding when brackets are absent (e.g. in  $3 + 2 \times 5 - 7$ ).
- Misinterpreting double negatives in subtraction: students often write  $-2 - -1$  as  $-3$  instead of recognising that subtracting a negative is equivalent to adding.
- Failing to convert units consistently in rate problems (e.g. calculating 300ml per minute over 120 minutes but forgetting to divide by 1000 to convert to litres).
- Oversimplifying fractions only once, missing that further cancellation is possible (e.g. reducing  $\frac{36}{360}$  to  $\frac{18}{180}$  but stopping there instead of simplifying to  $\frac{1}{10}$ ).
- Choosing obviously unrealistic answers in estimation questions (e.g. selecting 100kg or 5g for the weight of a can of chickpeas instead of 350g).
- Making arithmetic errors under time pressure in multi-mark questions, then losing two marks instead of one because the method mark is also forfeited.

## Exam technique

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Start by skimming the entire paper to identify the quick one-mark questions you can answer immediately, such as the square angle, prime numbers and fraction simplification. Secure these marks first to build confidence and momentum. Then tackle

the two-mark and five-mark questions, reading each carefully and underlining key information before you begin calculations.

Show all working out clearly, even for questions that seem straightforward. If you make an arithmetic slip but your method is sound, you may still earn partial credit on multi-mark questions. Use the space provided beneath each question rather than squeezing calculations into margins. For reverse problems like Question 14, write out each step in reverse order and check your answer by working forwards again.

Leave around five minutes at the end to review your answers. Check that units are correct (litres not millilitres, metres not kilometres), that negative signs are in place, and that fractions have been simplified fully. If you are stuck on a question, move on and return to it later rather than burning valuable minutes. Aim to spend roughly one minute per mark available, giving you time to double-check your work before the hour is up.

## What to revise alongside this paper

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To deepen understanding of the concepts tested here, revise **long multiplication and division** with numbers into the thousands, ensuring accuracy without a calculator. Study the classification of triangles (scalene, isosceles, equilateral) and quadrilaterals (parallelogram, rhombus, kite) in greater depth, including angle and symmetry properties.

Work on **ratio and proportion** problems, which build naturally from the fractions and percentages covered in this paper. Practise converting between fractions, decimals and percentages fluently, and apply percentages to real-world contexts such as discounts and interest. Explore **algebraic reasoning** by setting up and solving simple equations, which will help with reverse problems like Question 14.

For pupils aiming at the most selective schools, extend into **area and perimeter of compound shapes**, prime factorisation, and word problems involving speed, distance and time. Familiarise yourself with reading scales, graphs and tables beyond simple timetables, as data interpretation is a staple of GL Assessment papers.

## Key terms

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**Square, Pentagon, Heptagon, Quadrilateral, Trapezium, Scalene, Obtuse angle, Rounding, BIDMAS/BODMAS, Prime number, Mean, Percentage, Negative integers, Simplest form, Square root, Unit conversion, Rate, Timetable, Reverse calculation**

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**Answers**1.  $90^\circ$ 

2. £7.40

3.

Five sides	Seven sides	Quadrilateral	Triangle	Angle
Pentagon	Heptagon	Trapezium	Scalene	Obtuse

4. 240

5. a. 81      b. 4.5    c. 13223      d. 325      e. 6

6. Five slices (give one mark for working out either of the other two numbers: four and three)

7. £3.43

8. 3, 47

9. 5

10. 40ml

11. a. 43 mins    b. 0823      c. 0843      d. 33 mins    e. 0840

12.  $12^\circ$ 

13. a. -1      b. 27    c. 83    d. -196      e. -2

14. 114 (give one mark for any of the following numbers: 456, 462)

15. 36 litres (1 mark for 36000)

16.  $\frac{1}{10}$ 

17. 50%

18. 350g

19. 8

20. 4500



# Answer-Key Notes: 11+ Maths Answers (Test 6)

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 mark scheme shows final answers and, where appropriate, partial-credit guidance. When marking, award marks exactly as specified: for instance, question 6 allows one mark for correctly calculating either 4 or 3 slices given away, and question 14 awards partial credit for showing the intermediate values 456 or 462. Note these carefully; they distinguish a student who understands the method from one who has guessed.

Careless errors—a missed decimal point or a sign slip—look different from conceptual gaps. If a child writes 36000 for question 15 but forgets to convert to litres, they understand the rate calculation; if they write 600, they have misread the time unit. Use the worked examples below to confirm your diagnosis.

Consult the worked examples when an answer surprises you or when a child's working is incomplete. The explanations show the reasoning path that examiners expect, helping you decide whether to award partial marks and what to reteach.

## Score interpretation

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This 40-mark paper samples the full 11+ maths curriculum without a calculator. A score above 32 suggests fluency across arithmetic, fractions, percentages, negative numbers, time problems and algebraic reasoning. Such a candidate is well prepared for most grammar-school entrance papers and should focus on timing and accuracy under exam pressure.

Scores between 24 and 31 indicate solid foundations with gaps in one or two areas—often negative-number operations (question 13), multi-step problems (questions 6, 14, 15) or timetable interpretation (question 11). Review the questions missed: if they cluster in one topic, targeted revision will lift the score quickly. If errors are scattered, the child may be working too fast or misreading instructions.

Below 24, fundamental concepts need reinforcement. Prioritise place value, the four operations, and fractions before attempting multi-step or abstract questions. Retake the paper only after dedicated practice on the weakest topics; repeating it now will not teach what the child does not yet know.

## Worked examples

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### Arithmetic and order of operations, Q4-5

These questions test both calculation accuracy and understanding of conventions—rounding to the nearest ten, and BIDMAS (Brackets, Indices, Division/Multiplication, Addition/Subtraction). Marks are lost when students round 236 to 230 instead of 240, or evaluate  $5e$  left-to-right as  $3 + 10 - 7 = 6$  rather than  $3 + 10 - 7 = 6$ . Always work brackets first, then multiplication, then addition and subtraction from left to right.

**Q4** : 240

236 lies between 230 and 240. The units digit is 6, which is 5 or greater, so we round **up** to the next ten. Students who answer 230 have rounded down, forgetting the 'five and above' rule.

**Q5e** : 6

BIDMAS tells us to do  $2 \times 5 = 10$  first, giving  $3 + 10 - 7$ . Then work left to right:  $3 + 10 = 13$ , then  $13 - 7 = 6$ . The mistake '10' comes from adding  $3 + 2$  first and ignoring the brackets, or the mistake '0' from subtracting before adding.

### Fractions and multi-step problems, Q6, Q16

Question 6 rewards both correct fraction arithmetic and clear working. Examiners award one mark for calculating either  $\frac{1}{3}$  of  $12 = 4$  or  $\frac{1}{4}$  of  $12 = 3$ , even if the final answer is wrong; this recognises method over a single arithmetic slip. Question 16 tests simplification by the highest common factor. Always divide numerator and denominator by the same number until no common factor remains.

**Q6** : Five slices

Caleb receives  $\frac{1}{3} \times 12 = 4$  slices; Rebecca receives  $\frac{1}{4} \times 12 = 3$  slices. Together they take  $4 + 3 = 7$  slices, leaving Amaya with  $12 - 7 = 5$  **slices**. Showing either 4 or 3 in your working earns the first mark, even if you then add incorrectly.

**Q16** :  $1/10$

Both 36 and 360 are divisible by 36, the highest common factor.  $36 \div 36 = 1$  and  $360 \div 36 = 10$ , so  **$36/360$  simplifies to  $1/10$** . Dividing by smaller factors—say 2 or 6—works but requires extra steps and risks errors.

## Timetables and time intervals, Q11

All five parts rely on reading across rows and down columns accurately. Mistakes arise when students subtract the wrong pair of times or read the wrong row. To find a journey duration, subtract the departure time from the arrival time; to find the last safe departure, work backwards from the required arrival and check the timetable for the latest bus that still arrives on time.

**Q11a** : 43 mins

The first bus leaves Plant Street at 0800 and reaches Beetroot Close at 0843.  $0843 - 0800 = \mathbf{43 \text{ minutes}}$ . Students who answer 40 have miscounted or confused columns.

**Q11e** : 0840

Mark needs to reach Carrot Lane by 0900. The 0840 departure from Plant Street arrives at Carrot Lane at 0850, giving him ten minutes to spare. The next bus (0910) arrives at 0920, which is too late. Always check the **arrival** time at the destination stop, not the departure time.

## Negative numbers, Q12–13

Subtracting a negative is equivalent to adding its positive; multiplying or dividing two numbers with opposite signs gives a negative result. The most common error is treating  $-(-1)$  as  $-1$  rather than  $+1$ . When finding a temperature difference, subtract the lower temperature from the higher and ignore the sign, or think of it as the distance between the two points on a number line.

**Q12** :  $12^\circ$

The difference between  $-10^\circ$  and  $+2^\circ$  is found by subtracting:  $2 - (-10) = 2 + 10 = \mathbf{12^\circ}$ . Think of climbing from  $-10$  to 0 (ten degrees) then from 0 to  $+2$  (two degrees), totalling twelve degrees.

**Q13a** :  $-1$

$-2 - (-1)$  becomes  $-2 + 1 = \mathbf{-1}$ . Subtracting a negative is the same as adding the positive. Students who answer  $-3$  have incorrectly added the negatives together.

**Q13d** :  $-196$

$98 \times (-2)$ : a positive times a negative gives a negative, so  $98 \times 2 = 196$  and the answer is  $\mathbf{-196}$ . Forgetting the sign is the most frequent mistake here.

## Reverse problems and unit conversion, Q14–15

Question 14 asks you to undo each operation in reverse order. Start with the final answer, reverse the last step (multiply by two instead of dividing), reverse the next step (subtract six instead of adding), and reverse the first step (divide by four instead of multiplying).

Question 15 combines rate, time and unit conversion; calculate the volume in millilitres first, then convert to litres by dividing by 1000.

**Q14** : 114

Work backwards from 231. He divided by two, so multiply:  $231 \times 2 = 462$ . He added six, so subtract:  $462 - 6 = 456$ . He multiplied by four, so divide:  $456 \div 4 = \mathbf{114}$ . Showing either 456 or 462 in your working earns partial credit.

**Q15** : 36 litres

300 ml per minute for two hours. Two hours = 120 minutes, so total volume =  $300 \times 120 = 36\,000$  ml. Convert to litres by dividing by 1000:  $36\,000 \div 1000 = \mathbf{36}$  litres. Writing 36000 earns one mark; the second mark is for the correct unit.

## Percentages, fractions and roots, Q10, Q17, Q19

To find a percentage of a quantity, convert the percentage to a decimal or fraction and multiply. To convert a decimal to a percentage, multiply by 100. To find a square root, ask which number multiplied by itself gives the target. These are standard procedures; errors usually come from misreading the question or forgetting the conversion factor.

**Q10** : 40ml

20% of 200 ml. Write 20% as 0.2 or as  $\frac{1}{5}$ , then multiply:  $0.2 \times 200 = \mathbf{40}$  ml. Alternatively, 10% of 200 is 20, so 20% is double that: 40 ml.

**Q19** : 8

Which number times itself equals 64?  $8 \times 8 = 64$ , so the square root of 64 is **8**. Students who confuse square root with halving will answer 32.

## Next steps

Record every incorrect answer by topic—geometry, fractions, negative numbers, time, algebra—rather than by question number. If three or more mistakes fall in one topic, spend a focused session on that area using textbook exercises or online practice before attempting another full paper. If errors are scattered, the issue is more likely

concentration or misreading; practise reading questions aloud and underlining key words like 'simplest form' or 'in litres'.

Children scoring above 32 should move on to timed papers from other publishers (Bond, CGP, GL Assessment) to maintain variety and build exam stamina. Those scoring below 24 benefit more from topic-by-topic reinforcement than from repeated mock papers. Retake this paper in three to four weeks, after targeted revision, to measure progress; repeating it tomorrow will only test memory, not understanding.

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