

11+ PRACTICE PACK

OWL Tuition Test 7

11+ Maths Complete Practice Pack

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11 Plus

Paper [7]

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. What is the 3 in this number worth?

13567

2. Write this number in words:

246 800

3. How many tens are there in 960?

4. Put these numbers in order from smallest to largest:

1.09

0.62

1.009

0.99

1.12

5. My machine multiplies by six and then subtracts three.

Which number will I get if I put in:

a. 5

b. 60

c. 102

Which number did I put in if I get out:

d. 33

e. 117

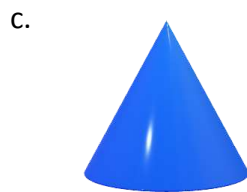
f. 597

6. There are 13 rolls in a baker's dozen. How many rolls are there in six dozen?

7. Mike has a twenty pound note and two pound coins. He spends £12.57. How much does he have left?

8. Give the names of three different types of triangles (3 marks)

9. What are the names of these 3D shapes?



10. How many millilitres are there in 0.7 litres?



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

North Town	0757	0817	0837	0857
South Town	0815	---	0855	---
West Town	0846	---	0926	---
East Town	0859	0846	0939	0926

- How long does it take for the 0757 train from North Town to get to West Town?
- Khushnum needs to be at work in West Town by 0900. What is the latest train she can catch from South Town?
- Mark arrives at North Town at 0820. When is the next train to South Town?
- How long does the 0857 train from North Town take to get to East Town?
- Ivy needs to be at school in South Town by 0900. Which is the latest train she can catch from North Town?

12. In Riga the average temperature is -9° in November. In Newcastle it is 4° . What is the difference between the temperatures?

13. What fraction of 3 hours is 20 minutes?



This shape is made from a square and an equilateral triangle. What is the size of the angle marked y ?

15. Ms Halaad is training for a marathon. She runs 10km every day beginning with a T and 18km every day beginning with an S. How far does she run each week?

16. Express this fraction in its simplest form:

$\frac{12}{108}$

17. What is 0.6 as a percentage?

18. Henry is going on a trip. He packs his small suitcase with clothes, toiletries and two books. Which of the following is likely to be the weight of his suitcase?

15kg 300g 85kg 2kg

19. What is the square root of 121?

20. What is the perimeter of a square with area 64cm^2 ?

21. A restaurant wrote down how many people ordered two of their pizzas on four days last week. Some of the information is missing.

Complete this table (7 marks):

Pizza	Monday	Tuesday	Saturday	Sunday	Total

Cheese and tomato	12	8		18	56
Ham and pineapple		16			
Total	36		67		145

22. Ben earns £7.50 an hour working at a café.

a. If Ben works for eight hours on Saturday and 5 hours on Sunday, how much will he earn?

b. Ben wants to buy a new games console for £255. How many hours will he need to work in total to be able to afford it?



Paper Notes: 11+ Maths Question Booklet (Test 7)

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

Overview

This is **Paper 7** from **Owl Tutors**, a **non-calculator maths exam** designed for **11-Plus** preparation. The paper aligns with the **GL Assessment** format and targets students applying for Year 7 entry to selective grammar and independent schools. It offers **60 minutes** of timed practice across **22 questions** worth a total of **40 marks**, meaning several questions carry multiple marks for more complex problem-solving.

The content spans a wide range of topics at Year 6 level: **place value, ordering decimals, function machines, word problems, negative numbers, fractions, decimals and percentages, geometry, measurement conversions, timetable reading, and data handling**. The paper mixes short one-mark questions (e.g. converting units, identifying shapes) with longer multi-part problems requiring logical reasoning and clear working.

This paper suits students in the final stages of 11-Plus preparation who are comfortable with core arithmetic and ready to apply their knowledge under exam conditions. The absence of a calculator tests mental fluency and estimation skills, both crucial for success on test day.

How this paper is organised

The paper comprises **22 numbered questions** carrying a combined **40 marks**, indicating that at least six questions award two or more marks each. Students are instructed to **show all working**, which is essential for multi-mark questions even when the final answer is incorrect, as partial credit may be available.

Questions progress from quick-fire retrieval (place value, number facts, unit conversions) to extended problem-solving. For example, **Question 5** has six sub-parts exploring function machines forwards and backwards, **Question 11** awards five marks for timetable reasoning, and **Question 21** carries seven marks for completing a two-way frequency table. These longer questions test sustained logical thinking and the ability to organise information methodically.

The **60-minute time limit** allows roughly 90 seconds per mark on average, though simpler questions will take far less. The mix of quick recall and multi-step reasoning demands careful pacing to ensure all sections receive appropriate attention.

Topics covered

- Place value and reading five-digit numbers (e.g. identifying the value of a digit in a given position)
- Writing numbers in words, including six-digit values with hundreds and thousands
- Ordering decimal numbers to three decimal places, distinguishing between 0.99, 1.009 and 1.09
- Function machines: applying two-step operations (multiply then subtract) and working backwards to find inputs
- Negative numbers and temperature difference across positive and negative values
- Fractions: simplifying ratios such as $12/108$ and converting time fractions (minutes as a fraction of hours)
- Decimals and percentages: converting 0.6 to a percentage and applying decimal conversions in context
- Measurement conversions: millilitres to litres and selecting plausible weights for real-world scenarios
- Geometry: naming triangle types (equilateral, isosceles, right-angled), 3D shapes (cuboid, cylinder, cone), and calculating exterior angles formed by composite shapes
- Perimeter and area: finding the perimeter of a square when only the area is given (requiring knowledge of square roots)
- Square roots: recognising that the square root of 121 is 11
- Timetable interpretation: calculating journey durations, identifying the latest suitable departure, and navigating missing entries in a rail schedule
- Data handling: completing a two-way frequency table by working forwards and backwards from row and column totals
- Multi-step word problems: calculating weekly distances from daily patterns, determining total earnings from hourly rates, and finding the number of hours required to reach a savings target

How to use this paper for revision

- Practise simplifying fractions quickly by spotting common factors (12 and 108 are both divisible by 12), as this saves time under pressure.
- Memorise the first 15 square numbers and their roots so questions like 'perimeter of a square with area 64 cm^2 ' become instant.
- Work through function machine problems both forwards and backwards. If the machine multiplies by 6 and subtracts 3, reverse it by adding 3 then dividing by 6.
- Refresh how to find temperature differences across zero: from negative 9 to positive 4 is 13 degrees, not 5.
- Read timetable questions twice and underline key constraints (arrival time, departure station) before scanning the table for the correct row and column.
- For multi-part data tables, fill in the easiest cells first (row or column totals that need only one missing value) and use those to unlock harder entries.
- Always show full working, even on questions worth one mark. Examiners award follow-through marks when the method is correct but an arithmetic slip occurs early.

Common mistakes to avoid

- Confusing place value (e.g. writing that the 3 in 13567 is worth 3 instead of 3000) when the question asks for value, not digit.
- Ordering decimals by length rather than value: 1.009 is smaller than 1.09 because the hundredths place (0 vs 9) matters more than the number of digits.
- Adding or subtracting negative numbers incorrectly: students often subtract 9 from 4 to get negative 5 instead of recognising the 13-degree span.
- Reversing function machine operations in the wrong order: if the machine multiplies then subtracts, you must add then divide, not divide then add.
- Reading timetable dashes as zero minutes instead of 'this train does not stop here', leading to impossible journey calculations.
- Forgetting to simplify fractions fully: reducing $12/108$ to $1/9$ requires dividing both numerator and denominator by 12, not stopping at $6/54$.

Exam technique

Start by scanning the entire paper and marking the multi-mark questions (5f, 8, 11, 21, 22) so you know where the bulk of the credit lies. Aim to spend no more than **30 seconds** on single-mark recall questions and reserve at least **10 minutes** for Question

21 (the data table) and Question 22 (the café earnings problem), both of which demand organised working and careful arithmetic.

Answer every question in order unless you become stuck. If a function machine part stumps you, skip to the next sub-part and return later; each lettered item typically stands alone. For timetable and table questions, use a pencil to annotate the grid (crossing out irrelevant trains, jotting intermediate totals in margins) so you can track your logic and spot errors quickly.

Always write out interim steps, especially in multi-mark questions. If Question 20 asks for the perimeter of a square with area 64 cm^2 , show that you found the side length (8 cm) before multiplying by four. Examiners award method marks even when the final answer is wrong, but only if the working is visible. In the final five minutes, revisit any blanks and check that units are included where required (km, °C, £, cm).

What to revise alongside this paper

Students should consolidate their understanding of **ratio and proportion** before tackling this paper, as questions such as Ben's hourly rate and Ms Halaad's weekly running schedule require proportional reasoning. Revising **the four operations with decimals** (especially multiplying and dividing by 10, 100 and 1000) will support the unit conversion and percentage questions.

Once confident with this paper, progress to more challenging 11-Plus material that introduces **algebraic thinking** (simple equations and sequences), **ratio problems** with three or more parts, and **compound shapes** requiring combined area calculations. Practising **speed arithmetic** using times tables up to 15×15 and common fraction-decimal-percentage equivalents (e.g. $1/9 = 0.111\dots$, $3/8 = 0.375$) will free up mental capacity for the reasoning steps.

For students sitting GL Assessment papers in particular, familiarise yourself with **spatial reasoning** and **logic puzzles**, as these often appear alongside arithmetic in the full exam. Working through additional Owl Tutors or Bond papers will build stamina for the 60-minute format and expose you to the variety of question styles used across different test providers.

Key terms

Place value, Decimal ordering, Function machine, Inverse operation, Negative numbers, Simplifying fractions, Percentage conversion, Equilateral triangle, Exterior angle, Cuboid, cylinder, cone, Square root, Perimeter and area, Timetable interpretation, Two-way frequency table, Rate and proportion

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Answers

1. 3000
2. Two hundred and forty-six thousand eight hundred.
3. 96
4. 0.62, 0.99, 1.009, 1.09, 1.12
5. a. 27 b. 357 c. 609 d. 6 e. 20 f. 600
6. 78
7. £9.43
8. Any three from: equilateral, right-angled, scalene, isosceles
9. a. cuboid b. cylinder c. cone
10. 700ml
11. a. 49 mins b. 0815 c. 0837 d. 29 mins e. 0837
12. 13°
13. 1/9
14. 210°
15. 56km
16. 1/9
17. 60%
18. 15kg
19. 11
20. 32cm
- 21.

Pizza	Monday	Tuesday	Saturday	Sunday	Total
Cheese and tomato	12	8	18	18	56
Ham and pineapple	24	16	49	30	119
Total	36	24	67	18	175

22. a. £97.50 b. 34 hours

Answer-Key Notes: 11+ Maths Answers (Test 7)

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

This answer key lists the correct answers for all 40 marks across 22 questions. Mark each response objectively, awarding full credit only when the answer matches exactly (including units, correct simplification of fractions, and the precise number of examples requested). For multi-part questions such as Q5, Q9, Q11 and Q21, award one mark per sub-part as indicated.

Distinguish between slips and genuine gaps. A child who writes 95 instead of 96 for Q3 has probably miscounted tens; a child who writes 9.6 does not understand place value. Use the worked examples below to diagnose the reasoning behind common errors.

If a question is wrong, encourage your child to rework it independently before consulting the explanation. The act of finding their own mistake cements understanding far more effectively than simply reading the solution.

Score interpretation

This paper awards 40 marks in total. A score of 32 or above (80 per cent) suggests strong readiness for selective-school mathematics, provided errors are scattered rather than clustered in one topic. Review any section where more than half the marks were lost.

Scores between 24 and 31 (60 to 79 per cent) indicate solid foundations with specific gaps. Pay close attention to which topics caused difficulty: multi-step problems (Q5, Q15, Q22), fractions and percentages (Q13, Q16, Q17), or geometric reasoning (Q14, Q20). Targeted practice in those areas will yield rapid improvement.

Below 24 marks usually signals that core arithmetic, fractions or problem-solving strategies need systematic revision. Prioritise fluency with times tables, fraction simplification and reading questions carefully. Work through similar papers untimed until confidence builds, then reintroduce the clock.

Worked examples

Place value and number sense, Q1–4

These questions test understanding of digit position and decimal ordering. Marks are lost when children confuse tens with thousands (Q1), write numerals instead of words (Q2), or

fail to align decimal places when ordering (Q4). Precision in reading the question is as important as calculation.

Q1 : 3000

The digit 3 sits in the thousands column of 13567, so its value is 3000. A common error is to answer '3' (the digit itself) or '30' (confusing columns). **Always multiply the digit by its place value.**

Q3 : 96

$960 \div 10 = 96$. Each 'ten' is worth 10 units, so divide the total by 10. Children who answer 9.6 have divided by 100; those who answer 9600 have multiplied instead.

Q4 : 0.62, 0.99, 1.009, 1.09, 1.12

Compare digits column by column from left to right. Numbers below 1 come first. Among decimals starting 1.0, the number 1.009 has 0 tenths and 0 hundredths, so it precedes 1.09 (which has 0 tenths and 9 hundredths). Finally 1.12 is largest.

Function machines and inverse operations, Q5

Six marks are available across parts (a) to (f). The first three test applying the rule; the last three test reversing it. Marks are lost when children subtract before multiplying (ignoring order of operations) or forget to reverse both steps in the correct sequence for inverse problems.

Q5(a) : 27

Input 5: multiply by 6 to get 30, then subtract 3 to reach 27. The phrase 'multiplies by six and then subtracts three' specifies the order. **Always apply operations in the sequence given.**

Q5(d) : 6

Output is 33. Working backwards: add 3 (inverse of subtract 3) to get 36, then divide by 6 (inverse of multiply by 6) to find the input was 6. Reverse both the operations and their order.

Money, measures and time, Q6-7, Q10-11

These questions reward careful unit conversion and attention to whether an answer should be in pence or pounds, millilitres or litres, minutes or hours. The timetable (Q11) requires

counting forwards or backwards across the hour boundary; many children lose marks by misreading 24-hour times or forgetting to check which trains stop at which stations.

Q6 : 78

A baker's dozen is 13. Six dozens: $6 \times 13 = 78$ rolls. **Multiply the special quantity by the number of groups.** Children who answer 72 have used 12 instead of 13.

Q11(a) : 49 mins

The 0757 from North Town reaches West Town at 0846. From 0757 to 0800 is 3 minutes; 0800 to 0846 is 46 minutes. Total: 49 minutes. Breaking the interval at the hour makes counting easier.

Q11(b) : 0815

Khushnum must arrive by 0900. The 0815 train reaches West Town at 0846 (within the deadline). The later 0855 train does not serve West Town (marked ---), so 0815 is the only valid answer.

Geometry and angle facts, Q8–9, Q14, Q20

Marks are awarded for knowing vocabulary (triangle types, 3D-shape names) and for applying angle and perimeter rules. Q14 is a multi-step problem combining square and equilateral-triangle angles; many children find the square's corner angle but forget to subtract the triangle's internal angle to isolate y .

Q14 : 210°

A square has 90° corners; an equilateral triangle has 60° angles. The angle y is the reflex angle formed outside the joined edge. It equals 360° minus the two internal angles that meet at that vertex: $360^\circ - 90^\circ - 60^\circ = 210^\circ$. **Check whether the question asks for the interior or exterior angle.**

Q20 : 32cm

Area 64 cm^2 means each side of the square is $\sqrt{64} = 8 \text{ cm}$. Perimeter is $4 \times 8 = 32 \text{ cm}$. A common error is to give 8 cm (one side) or 16 cm (two sides) instead of all four.

Fractions, decimals and percentages, Q13, Q16–17

All three questions test equivalent forms and simplification. Marks are lost when fractions are left unsimplified (Q16) or when children confuse the decimal-to-percentage conversion factor. Always divide numerator and denominator by their highest common factor.

Q13 : 1/9

Three hours is 180 minutes. The fraction is $\frac{20}{180}$. Divide numerator and denominator by 20 to simplify: $20 \div 20 = 1$, $180 \div 20 = 9$, so **$\frac{1}{9}$ in simplest form.**

Q16 : 1/9

12 and 108 share a highest common factor of 12. Dividing both by 12 gives $\frac{1}{9}$. Children who answer $\frac{2}{18}$, $\frac{3}{27}$ or $\frac{6}{54}$ have only partly simplified; always check whether further cancellation is possible.

Problem-solving and tables, Q15, Q21–22

These questions require planning across multiple steps or filling gaps in a two-way table by using row and column totals. Marks are lost through arithmetic slips, forgetting to add both weekend days (Q15), or failing to check that rows and columns sum correctly (Q21). Show all working so errors can be traced.

Q15 : 56km

Days beginning with T: Tuesday and Thursday (2 days \times 10 km = 20 km). Days beginning with S: Saturday and Sunday (2 days \times 18 km = 36 km). Total per week: 20 + 36 = 56 km.

List the days systematically to avoid missing one.

Q21, Saturday column for Ham and pineapple : 49

Saturday total is 67; Cheese and tomato Saturday is 18. So Ham and pineapple Saturday must be $67 - 18 = 49$. Always use the row or column total to find a missing cell.

Q22(b) : 34 hours

Ben needs £255 at £7.50 per hour. Divide: $255 \div 7.5 = 34$ hours exactly. If the division does not come out whole, round up to the next whole hour because he cannot work a fraction of an hour to afford it.

Next steps

Record which topics caused difficulty and revisit them with fresh practice before attempting another full paper. If multi-step problems (Q5, Q15, Q22) were challenging, work through similar questions untimed, writing out every intermediate step until the method becomes automatic. If fractions or percentages need attention, use visual aids (pie charts, bar models) alongside symbolic work.

Children scoring above 85 per cent should try past papers from the grammar school or independent school they are targeting, working under timed conditions. Those scoring below 70 per cent will benefit most from topic-by-topic revision using a structured workbook (Bond, CGP or similar), returning to full mixed papers once confidence is rebuilt. Always review errors within 24 hours while the question is still fresh in memory.

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