



AcumenTeach

Precision. Practice. Progress

11+ MATHEMATICS

Free Taster Mock

Level 3 · Advanced · Grammar Stream Series

Free Practice Pack

Question Paper · 15 questions · 15 minutes

Answer Sheet and Answer Key

Step-by-Step Worked Solutions

Results and Topic Diagnostic

Suitable for GL, independent school and grammar school preparation

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How to Use This Pack

A guide for parents and tutors

Before the test

1. Print the Question Paper and the Answer Sheet. Keep the Answer Key and Solutions Booklet aside.
2. Choose a quiet table and a time when your child is fresh. Allow exactly 15 minutes.
3. Your child needs a pencil, a rubber and scrap paper. Calculators are not allowed.

After the test

1. Mark the Answer Sheet using the Answer Key (one mark per question).
2. Fill in the Results and Topic Diagnostic page at the back. It shows which topics need work.
3. Go through each wrong answer with the Solutions Booklet. Ask your child to explain their working first: many mistakes are slips, not gaps.
4. Use the "Watch out" notes to spot the trap behind each wrong option.

Exam technique tips for your child

- **Pace yourself.** There are 15 questions in 15 minutes, so about a minute each. If a question takes too long, mark it and come back.
- **Read every option.** Wrong answers are designed to match common slips. Check your answer is not one of them by mistake.
- **Eliminate.** Cross out options that cannot be right (too big, too small, wrong units). Even guessing between two doubles your chances.
- **Estimate first.** A quick rough answer tells you which option is sensible before you work it out exactly.
- **Watch the units.** Questions that mix litres and millilitres, or metres and centimetres, are easy marks to lose.
- **Never leave a blank.** There are no marks taken away for wrong answers, so always choose an option.

Question difficulty

Every question is graded so you can see how your child copes as the paper gets harder:

Core	Essential skills every grammar school candidate must secure.
Stretch	Multi-step questions at the standard expected of a confident pass.
Challenge	The hardest questions on the paper. These separate high scorers.

Question Paper

11+ Mathematics Free Taster Mock · Level 3 Advanced

Candidate name	
Date	
Score	/ 15

15 questions	15 minutes	15 marks	No calculator
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Instructions

1. Answer all 15 questions.
2. Each question has four possible answers: A, B, C or D. Choose one answer only.
3. Mark your answers on the separate Answer Sheet.
4. Each correct answer earns 1 mark. No marks are taken away for wrong answers.
5. Use scrap paper for your working. Calculators are not allowed.
6. Work carefully. If you have time at the end, check your answers.

Do not turn over until you are told to begin.

Section A · Arithmetic**Question 1**

Calculate: $8,357 + 6,948 - 3,579$

A 11,626**B** 11,716**C** 11,726**D** 11,826**Question 2**

Calculate: $7,236 \div 18$

A 392**B** 402**C** 412**D** 420**Question 3**

Which whole number is closest to $\sqrt{5,000}$?

A 68**B** 70**C** 71**D** 75

Section B · Fractions and Decimals**Question 4**

What is $\frac{3}{8}$ of 264?

A 88**B** 96**C** 99**D** 105**Question 5**

Calculate: $\frac{5}{6} - \frac{3}{8}$

A $\frac{1}{12}$ **B** $\frac{11}{24}$ **C** $\frac{13}{24}$ **D** $\frac{7}{24}$ **Question 6**

Which is the largest?

A 0.67**B** $\frac{2}{3}$ **C** 0.6**D** $\frac{13}{20}$

Section C · Percentages and Ratio**Question 7**

A coat costs £80. Its price rises by 15%, then the new price is reduced by 15%. What is the final price?

A £80.00**B** £78.20**C** £81.80**D** £76.50**Question 8**

Sam and Priya share some sweets in the ratio 3 : 5. Priya gets 36 more sweets than Sam. How many sweets are there altogether?

A 96**B** 120**C** 144**D** 180

Section D · Measurement and Geometry**Question 9**

A rectangle has a perimeter of 60 cm. Its length is twice its width. What is its area?

- A** 150 cm² **B** 180 cm² **C** 200 cm² **D** 225 cm²

Question 10

In an isosceles triangle, the two equal angles are each 65°. What is the third angle?

- A** 40° **B** 50° **C** 65° **D** 115°

Question 11

A box measures 6 cm by 4 cm by 5 cm inside. How many 2 cm cubes can fit inside it?

- A** 12 **B** 15 **C** 30 **D** 60

Section E · Time and Money**Question 12**

A film starts at 18:45 and lasts 2 hours 38 minutes. At what time does it end?

A 21:13**B** 21:23**C** 21:33**D** 20:23**Section F · Sequences, Averages and Reasoning****Question 13**

Find the next term: 3, 4, 7, 11, 18, 29, ...

A 40**B** 45**C** 47**D** 49

Question 14

Five numbers have a mean of 12. A sixth number is added and the mean becomes 13. What is the sixth number?

A 13**B** 15**C** 18**D** 20**Section G · Word Problems****Question 15**

A school orders 23 boxes of pens. Each box holds 48 pens. The pens are shared equally between 8 classes. How many pens does each class get?

A 132**B** 136**C** 138**D** 144**End of Question Paper**

Check that you have answered all 15 questions on your Answer Sheet.

Answer Sheet

Shade or tick ONE circle for each question

Candidate name	
Date	

Q	A	B	C	D
1	☐	☐	☐	☐
2	☐	☐	☐	☐
3	☐	☐	☐	☐
4	☐	☐	☐	☐
5	☐	☐	☐	☐
6	☐	☐	☐	☐
7	☐	☐	☐	☐
8	☐	☐	☐	☐

Q	A	B	C	D
9	☐	☐	☐	☐
10	☐	☐	☐	☐
11	☐	☐	☐	☐
12	☐	☐	☐	☐
13	☐	☐	☐	☐
14	☐	☐	☐	☐
15	☐	☐	☐	☐

Score: ____ / 15	Time taken: ____ min	Marked by: _____
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Answer Key and Marking Guide

For parents and tutors. Award 1 mark for each correct answer.

Q	Ans	Q	Ans	Q	Ans	Q	Ans	Q	Ans
1	C	4	C	7	B	10	B	13	C
2	B	5	B	8	C	11	A	14	C
3	C	6	A	9	C	12	B	15	C

Score bands

Score	Band	What to do next
14-15	Very secure	Strong across the taster. Try a full Advanced or Mastery mock.
12-13	Strong foundation	Review the wrong answers, then try a full Advanced mock.
9-11	Developing well	Use the topic diagnostic to target weak areas. Try a full Intermediate mock.
6-8	More practice needed	Revisit the key methods. Focus on accuracy before speed.
Below 6	Build the foundations	Work through topics step by step. Start with a Foundation mock.

These bands are guidance for this practice paper, not official 11+ pass marks, which vary between schools and test providers.

Parent and Tutor Solutions Booklet

Step-by-step worked solutions for every question

Each solution is broken into numbered steps, the way your child would work it out in the exam without a calculator. The final answer is shown in bold. The "Watch out" note explains the slip behind the most tempting wrong answer.

Diagram colour key

- Given in the question
- Worked out or helper line
- Groups and matching parts
- Final answer

Section A · Arithmetic

Question 1

Core

Calculation · Addition and subtraction

Calculate: $8,357 + 6,948 - 3,579$

A 11,626 B 11,716 C 11,726 D 11,826

Step	What to do	Working
1	Add the first two numbers in columns	$8,357 + 6,948 = 15,305$
2	Subtract the third number	$15,305 - 3,579 = 11,726$
3	Check by estimating	$8,400 + 6,900 - 3,600 \approx 11,700$ ✓
✓	Final answer	C = 11,726

Watch out: A borrowing slip in the subtraction gives 11,716 or 11,826.

Question 2**Stretch**

Calculation · Short division

Calculate: $7,236 \div 18$

A 392 B 402 C 412 D 420

Step	What to do	Working
1	Split 18 into two easier divisors	$18 = 2 \times 9$
2	Divide by 2 first	$7,236 \div 2 = 3,618$
3	Then divide by 9	$3,618 \div 9 = 402$
4	Check by multiplying back	$402 \times 18 = 7,236 \checkmark$
✓	Final answer	B = 402

Watch out: Missing the zero in the tens place gives 42, and then guessing a nearby option.

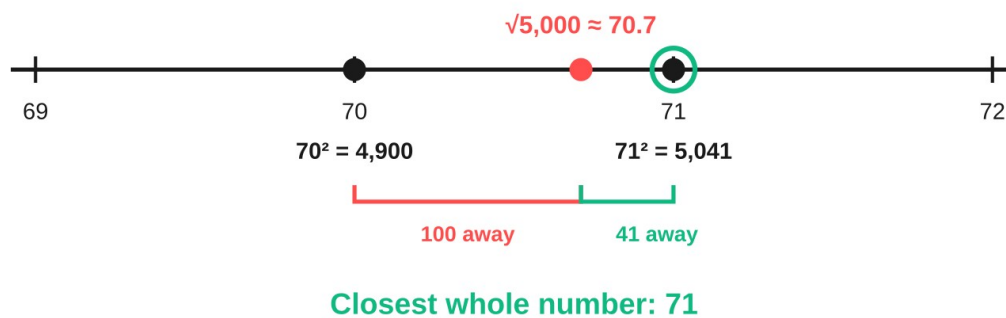
Question 3**Challenge**

Number and Place Value · Square roots and estimation

Which whole number is closest to $\sqrt{5,000}$?

A 68 B 70 C 71 D 75

Step	What to do	Working
1	Find a square just below 5,000	$70 \times 70 = 4,900$
2	Find a square just above 5,000	$71 \times 71 = 5,041$
3	Compare the distances	$5,000 - 4,900 = 100$; $5,041 - 5,000 = 41$
4	Choose the closer one	41 is smaller, so 71
✓	Final answer	C = 71



Watch out: Choosing 70 because $70^2 = 4,900$ feels close, without checking 71^2 .

Section B · Fractions and Decimals

Question 4

Core

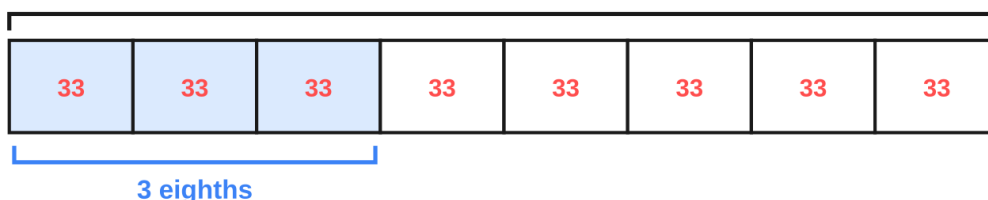
Fractions and Decimals · Fraction of an amount

What is $\frac{3}{8}$ of 264?

A 88 B 96 C 99 D 105

Step	What to do	Working
1	Find one eighth	$264 \div 8 = 33$
2	Multiply by 3	$33 \times 3 = 99$
✓	Final answer	C = 99

Whole = 264



$$3 \times 33 = 99$$

Watch out: Finding one third (88) instead of three eighths.

Question 5

Stretch

Fractions and Decimals · Subtracting fractions

Calculate: $\frac{5}{6} - \frac{3}{8}$ A $\frac{1}{12}$ B $\frac{11}{24}$ C $\frac{13}{24}$ D $\frac{7}{24}$

Step	What to do	Working
1	Find the lowest common denominator	6 and 8 → 24
2	Change $\frac{5}{6}$ into 24ths	$\frac{5}{6} = \frac{20}{24} (\times 4)$
3	Change $\frac{3}{8}$ into 24ths	$\frac{3}{8} = \frac{9}{24} (\times 3)$
4	Subtract the numerators	$\frac{20}{24} - \frac{9}{24} = \frac{11}{24}$
✓	Final answer	B = $\frac{11}{24}$

Watch out: Changing the bottom numbers to 24 but not the top numbers: $\frac{5}{24} - \frac{3}{24} = \frac{2}{24} = \frac{1}{12}$, which is option A.

Question 6**Challenge**

Fractions and Decimals · Comparing fractions and decimals

*Which is the largest?*A 0.67 B $\frac{2}{3}$ C 0.6 D $\frac{13}{20}$

Step	What to do	Working
1	Write every option as a decimal	0.670, 0.666..., 0.600, 0.650
2	Compare digit by digit	$0.670 > 0.666...$
3	Pick the largest	0.67
✓	Final answer	A = 0.67

Watch out: Choosing $\frac{2}{3}$ because it looks like 0.67. $\frac{2}{3}$ is 0.666..., which is slightly smaller.

Section C · Percentages and Ratio**Question 7****Challenge**

Percentages · Percentage increase and decrease

A coat costs £80. Its price rises by 15%, then the new price is reduced by 15%. What is the final price?

A £80.00 B £78.20 C £81.80 D £76.50

Step	What to do	Working
1	Find 15% of £80	$10\% = £8, 5\% = £4 \rightarrow £12$
2	Increase the price	$£80 + £12 = £92$
3	Find 15% of £92	$10\% = £9.20, 5\% = £4.60 \rightarrow £13.80$
4	Decrease the new price	$£92 - £13.80 = £78.20$
✓	Final answer	B = £78.20

Watch out: Thinking +15% then –15% cancels out to £80. The second 15% is taken from a bigger amount.

Question 8**Stretch**

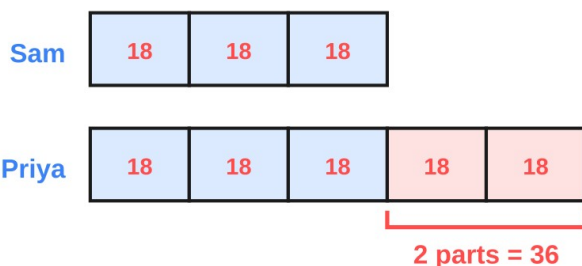
Ratio and Proportion · Sharing in a ratio

Sam and Priya share some sweets in the ratio 3 : 5. Priya gets 36 more sweets than Sam. How many sweets are there altogether?

A 96 B 120 C 144 D 180

Step	What to do	Working
1	Find the difference in parts	$5 - 3 = 2$ parts
2	Find the value of one part	2 parts = 36, so 1 part = 18
3	Find the total parts	$3 + 5 = 8$ parts
4	Multiply	$8 \times 18 = 144$
✓	Final answer	C = 144

Sam : Priya = 3 : 5



Total: 8 parts $\times$ 18 = 144

Watch out: Treating 36 as one part, or as Priya's whole share.

Section D · Measurement and Geometry

Question 9

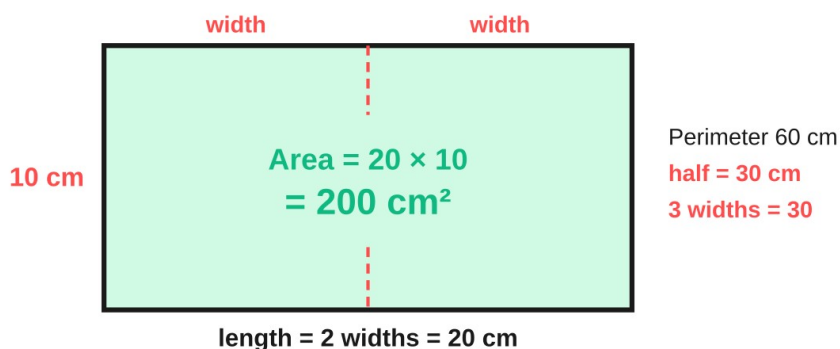
Stretch

Geometry · Perimeter and area

A rectangle has a perimeter of 60 cm. Its length is twice its width. What is its area?

A 150 cm² B 180 cm² C 200 cm² D 225 cm²

Step	What to do	Working
1	Halve the perimeter	$60 \div 2 = 30$ cm (one length + one width)
2	Length is 2 widths, so 3 widths = 30	width = $30 \div 3 = 10$ cm
3	Find the length	$2 \times 10 = 20$ cm
4	Multiply length by width	$20 \times 10 = 200$ cm ²
✓	Final answer	C = 200 cm²



Watch out: Assuming the shape is a square ($15 \times 15 = 225 \text{ cm}^2$).

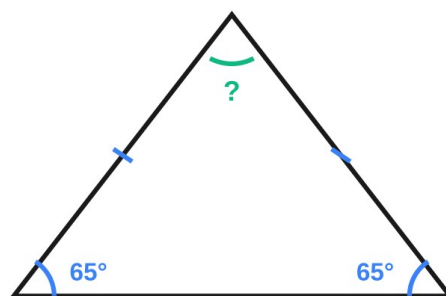
Question 10**Core**

Geometry · Angles in a triangle

In an isosceles triangle, the two equal angles are each 65° . What is the third angle?

A 40° B 50° C 65° D 115°

Step	What to do	Working
1	Add the two equal angles	$65^\circ + 65^\circ = 130^\circ$
2	Subtract from 180°	$180^\circ - 130^\circ = 50^\circ$
✓	Final answer	B = 50°



$$65^\circ + 65^\circ = 130^\circ$$

$$180^\circ - 130^\circ$$

$$= 50^\circ$$

Watch out: Answering 65° because the triangle is isosceles, or 115° by subtracting only one angle.

Question 11**Challenge**

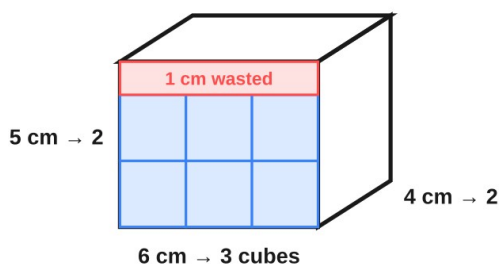
Measurement · Volume and packing

A box measures 6 cm by 4 cm by 5 cm inside. How many 2 cm cubes can fit inside it?

A 12 B 15 C 30 D 60

Step	What to do	Working
1	How many cubes fit along 6 cm?	$6 \div 2 = 3$
2	How many fit along 4 cm?	$4 \div 2 = 2$
3	How many fit along 5 cm?	only 2 (4 cm), 1 cm left over
4	Multiply the three counts	$3 \times 2 \times 2 = 12$
✓	Final answer	A = 12

Box 6 cm × 4 cm × 5 cm, filled with 2 cm cubes



$$3 \times 2 \times 2$$

$$= 12 \text{ cubes}$$

Watch out: Dividing the volume: $120 \div 8 = 15$. Cubes cannot be cut, so the leftover 1 cm is wasted.

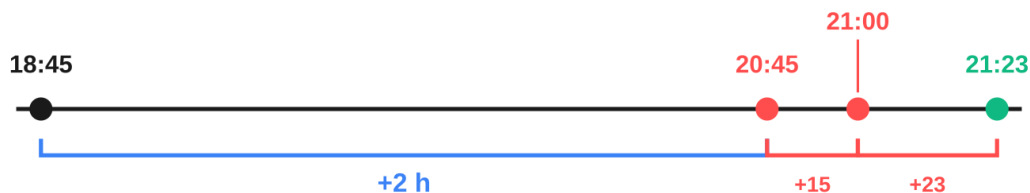
Section E · Time and Money**Question 12****Core**

Time and Money · Time intervals

A film starts at 18:45 and lasts 2 hours 38 minutes. At what time does it end?

A 21:13 B 21:23 C 21:33 D 20:23

Step	What to do	Working
1	Add the whole hours	$18:45 + 2 \text{ h} = 20:45$
2	Count to the next hour	$20:45 \rightarrow 21:00 = 15 \text{ min}$
3	Add the minutes left	$38 - 15 = 23 \rightarrow 21:23$
✓	Final answer	B = 21:23

**The film ends at 21:23**

Watch out: Adding $45 + 38 = 83$ and writing 20:83, then converting wrongly.

Section F · Sequences, Averages and Reasoning

Question 13

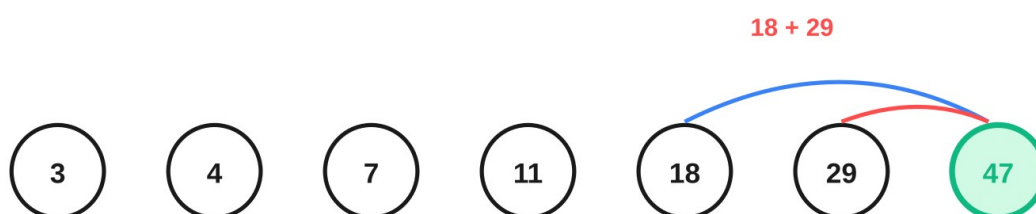
Challenge

Sequences and Algebra · Term-to-term rules

Find the next term: 3, 4, 7, 11, 18, 29, ...

A 40 B 45 C 47 D 49

Step	What to do	Working
1	Look for the rule	$3 + 4 = 7, 4 + 7 = 11$
2	Check every term	$7 + 11 = 18, 11 + 18 = 29 \checkmark$
3	Add the last two terms	$18 + 29 = 47$
✓	Final answer	C = 47



Each term = the two terms before it added together

 Next term: $18 + 29 = 47$
Watch out: Looking only at the gaps (1, 3, 4, 7, 11) and adding the wrong one.

Question 14

Stretch

Statistics · Mean

Five numbers have a mean of 12. A sixth number is added and the mean becomes 13. What is the sixth number?

A 13 B 15 C 18 D 20

Step	What to do	Working
1	Total of the five numbers	$5 \times 12 = 60$
2	Total of the six numbers	$6 \times 13 = 78$
3	Subtract to find the sixth	$78 - 60 = 18$
✓	Final answer	C = 18

Watch out: Answering 13 (the new mean) instead of working with totals.

Section G · Word Problems**Question 15****Stretch**

Word Problems · Multi-step

A school orders 23 boxes of pens. Each box holds 48 pens. The pens are shared equally between 8 classes. How many pens does each class get?

A 132 B 136 C 138 D 144

Step	What to do	Working
1	Find the total number of pens	$23 \times 48 = 1,104$
2	Share between 8 classes	$1,104 \div 8 = 138$
3	Check	$138 \times 8 = 1,104 \checkmark$
✓	Final answer	C = 138

Watch out: A slip in 23×48 (for example 1,084) leads to 136 or another nearby option.

Results and Topic Diagnostic

Complete after marking to see where to focus next

Total score _____ / 15	Percentage _____ %	Score band _____
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Results by topic (below 60% = priority, 80%+ = secure)

Topic	Questions	Max	Scored	Score %
Calculation	1, 2	2		%
Number and Place Value	3	1		%
Fractions and Decimals	4, 5, 6	3		%
Percentages	7	1		%
Ratio and Proportion	8	1		%
Measurement	11	1		%
Geometry	9, 10	2		%
Time and Money	12	1		%
Sequences and Algebra	13	1		%
Statistics	14	1		%
Word Problems	15	1		%
Total	All	15		%

Results by difficulty

Difficulty	Questions	Max	Scored	Score %
Core	1, 4, 10, 12	4		%
Stretch	2, 5, 8, 9, 14, 15	6		%
Challenge	3, 6, 7, 11, 13	5		%

Next steps

Strongest topics	Topics to practise next
1. 2. 3.	1. 2. 3.

Ready for the Full Mock Exam?

The complete AcumenTeach 11+ Maths Mock Exams

This taster has 15 questions. Our full mock exams are complete exam rehearsals, with everything you need to mark, review and plan your child's next steps.

Every full mock pack includes

- ✓ **50 questions in 45 minutes**, the length and pace of the real exam.
- ✓ **Lined working space**, under every question.
- ✓ **Answer sheet, answer key and score bands**, so you can mark in minutes.
- ✓ **Step-by-step worked solutions**, for all 50 questions, with colour-coded diagrams.
- ✓ **Results and topic diagnostic**, showing exactly which topics to practise next.

Four levels

Foundation	Boost and Build. Core methods, arithmetic and timing.
Intermediate	Target Pass. Word problems, multi-step questions and exam technique.
Advanced	Grammar Stream. Harder data, fractions and reasoning for competitive grammar schools.
Mastery	Mastery Papers. Non-routine problems for the highest scores.

Which level? If your child scored 12 or more on this taster (75%+), try Advanced. Otherwise, start with Intermediate.

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