

11+ PRACTICE PACK

OWL Tuition Test 4

11+ Maths Complete Practice Pack

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11 + Entrance Examination

Paper 4

Maths (Non-Calculator)

You have 70 minutes (1 hour 10 minutes) to complete this paper.

Do as many questions as you can and keep an eye on the time.

Calculators are not allowed.

Show your working in the spaces provided and write your answers on the lines. If you do not show enough working you may not get any marks. Be sure to include units in your answers where appropriate.

Each question is worth 2 marks. The total number marks for the paper is 80.

Full name

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1. Work out 2000×0.45

_____ (2 marks)

2. Write twenty four thousand and forty two in figures.

_____ (2 marks)

3. The mean of the eleven digits in Tom's phone number is 5.
Some of the digits in his phone number are shown below.
The eleventh digit is one more than the seventh digit.

What is Tom's phone number?

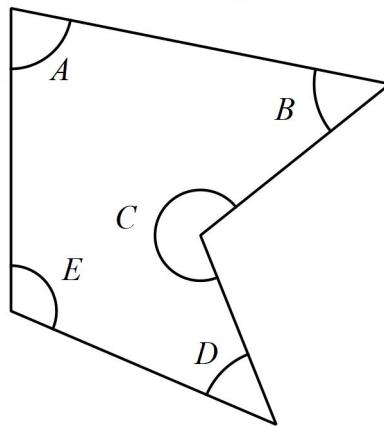
0	7	9	4	9	3		6	4	2	
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_____ (2 marks)

4. The perimeter of a regular octagon is 120 cm.
What is the length of one of its sides?

_____ (2 marks)

5. Look at the shape below. Which of the labelled angles is a reflex angle?



_____ (2 marks)

6. How many seconds are there in one and a half hours?

_____ (2 marks)

7. The table below shows the results of a race taken by 5 boys.
Who came last?

Name	Time (seconds)
Alfie	34.36
Ellis	33.59
Fergus	34.6
Glenn	33.5
Rowan	34.04

_____ (2 marks)

8. Find the number exactly halfway between 4.91 and 5.01.

_____ (2 marks)

9. A shop reduces the price of a mobile phone by 15%. They usually cost £220 each.
How much would it cost to buy two of the mobile phones?

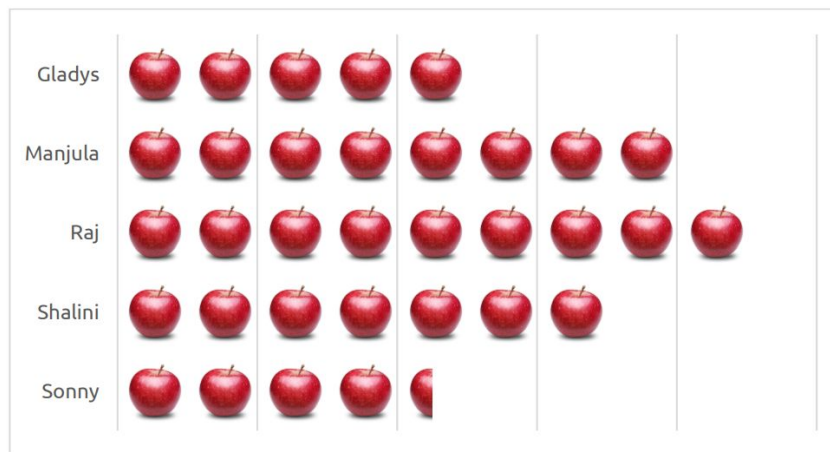
_____ (2 marks)

10. Which of the options below will equal 1000?

- A 1645 rounded to the nearest 1000
- B 851 rounded to the nearest 100
- C 957 rounded to the nearest 100
- D 957 rounded to the nearest 10
- E 1234 rounded to the nearest 100

_____ (2 marks)

11. The pictogram below shows the number of apples eaten by five people over two weeks. What is the ratio of apples eaten by Sonny to those eaten by Raj?



_____ (2 marks)

12. The temperature outside is -5°C and the temperature inside is 22°C warmer.
What is the temperature inside?

_____ (2 marks)

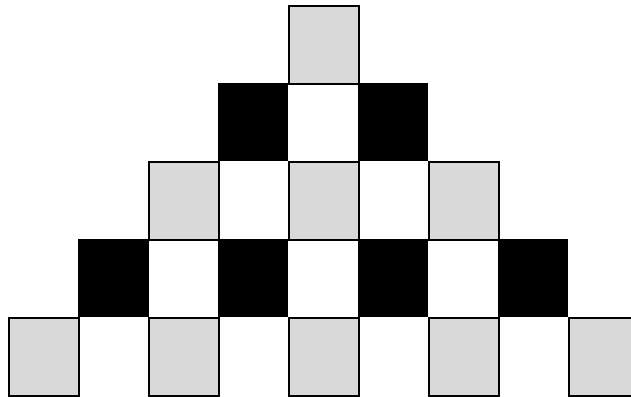
13.

Milk Bottle	£1.10
Eggs (per dozen)	£2.20
Cheese	90p

Using the price list above, how much would it cost to buy two bottles of milk, six eggs, and a packet of cheese.

_____ (2 marks)

14. Ronnie uses black and grey squares on white paper to make this pattern.



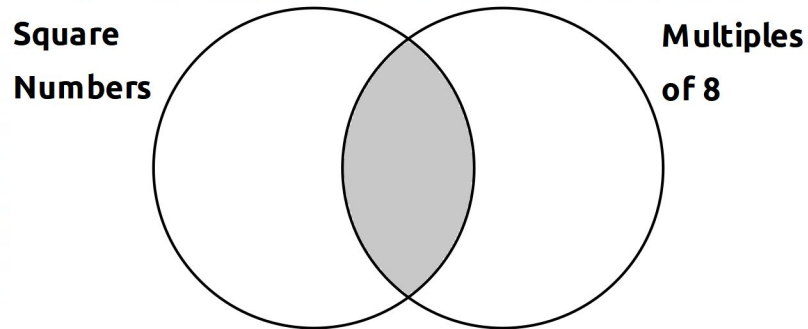
He then draws two more rows to continue the pattern.
How many grey squares will he have drawn in total?

_____ (2 marks)

15. Fiona is thinking of a two digit number. It is a factor of 90. Its digits add up to an even number. What number is Fiona thinking of?

_____ (2 marks)

16. Which numbers, between 0 and 100, would go in the shaded area of the Venn Diagram?



_____ (2 marks)

17. The area of a circle is roughly $3r^2$, where r is the radius of the circle.
Roughly, what is the area of a circle with diameter 6 cm?

_____ (2 marks)

18. If $15 \times 823 = 12345$ then what is $123.45 \div 15$?

_____ (2 marks)

19 If $x > 31.55$ then which of these could be x ?

A 30.55

B 29.99

C 31.48

D 31.7

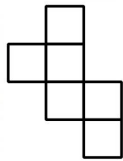
E 31.5

_____ (2 marks)

20. What is the remainder when 125 is divided by 15?

_____ (2 marks)

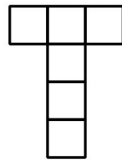
21. Which of these nets will not fold up to make a cube?



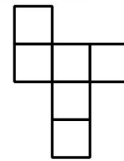
A



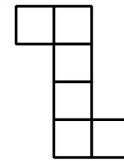
B



C



D



E

_____ (2 marks)

22. What is the next number in this sequence?

$$1\frac{3}{4}$$

$$1\frac{1}{2}$$

$$\frac{3}{4}$$

$$\frac{1}{4}$$

_____ (2 marks)

23. A tap drips 2 ml of water every 12 minutes. How long will it take to drip 21 ml of water?

_____ (2 marks)

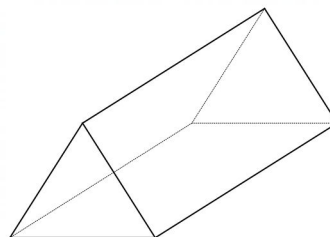
24. Entry to a cinema costs £2.45 per child and £5.50 per adult. How much is the total cost for 12 children and 2 adults?

_____ (2 marks)

25. Sophie is making party bags for 14 friends. She puts three different toys into each bag. The toys come in packs of five. How many packs will Sophie need to buy?

_____ (2 marks)

26. How many vertices are there on a triangular prism?

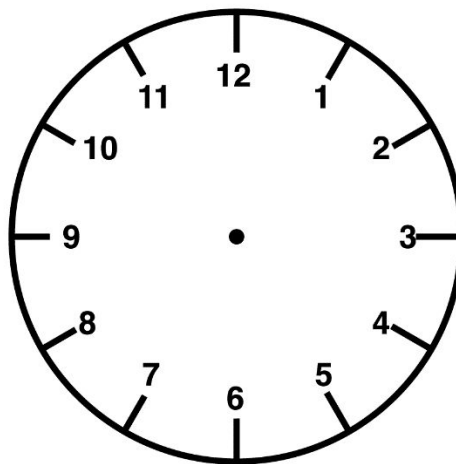


_____ (2 marks)

27. A recipe for 24 chocolate brownies needs 300g of butter. How many chocolate brownies can I make with 3.5 kg of butter?

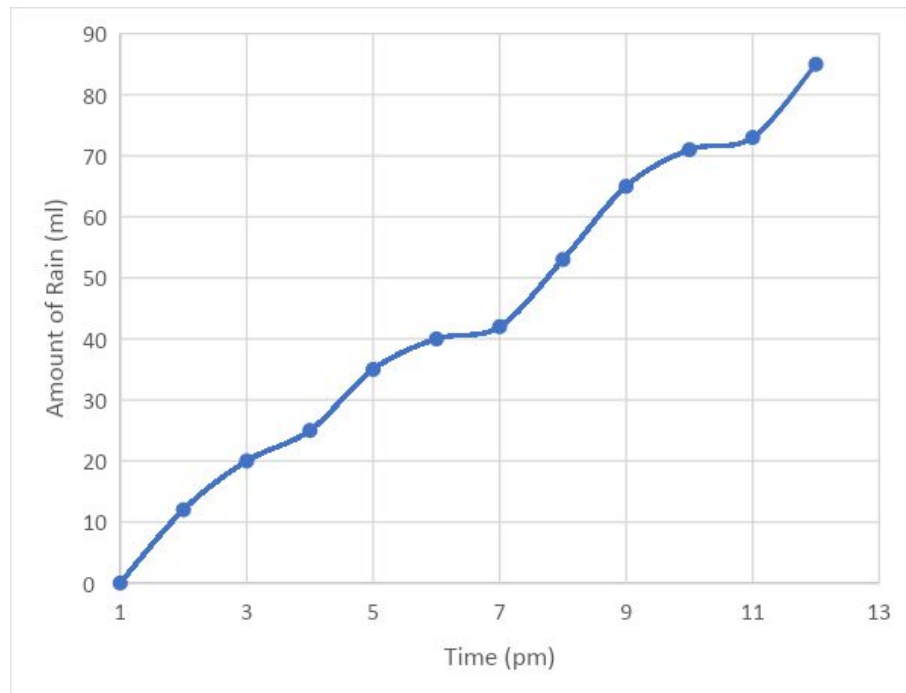
_____ (2 marks)

28. What angle will the minute hand (the long hand) of a clock turn through from 8:25 to 8:45?



_____ (2 marks)

29. Every hour, Amir measures the amount of rainfall he collects in a tub in his garden. He draws a graph of his results. How much rain does he collect between 3 pm and 9 pm?



_____ (2 marks)

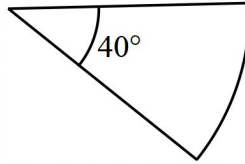
30. Which of these is not a multiple of 17?

- A 51
- B 85
- C 102
- D 121
- E 136

_____ (2 marks)

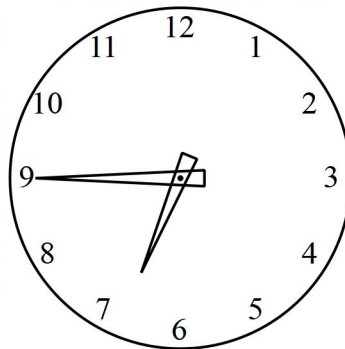
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31. I cut a slice of pizza, as shown below, from a whole pizza.
What fraction of the whole pizza is left?



_____ (2 marks)

32. I watched a film on TV. It started at the time shown on the clock below.



The film finished at 2115. How long did the film last?

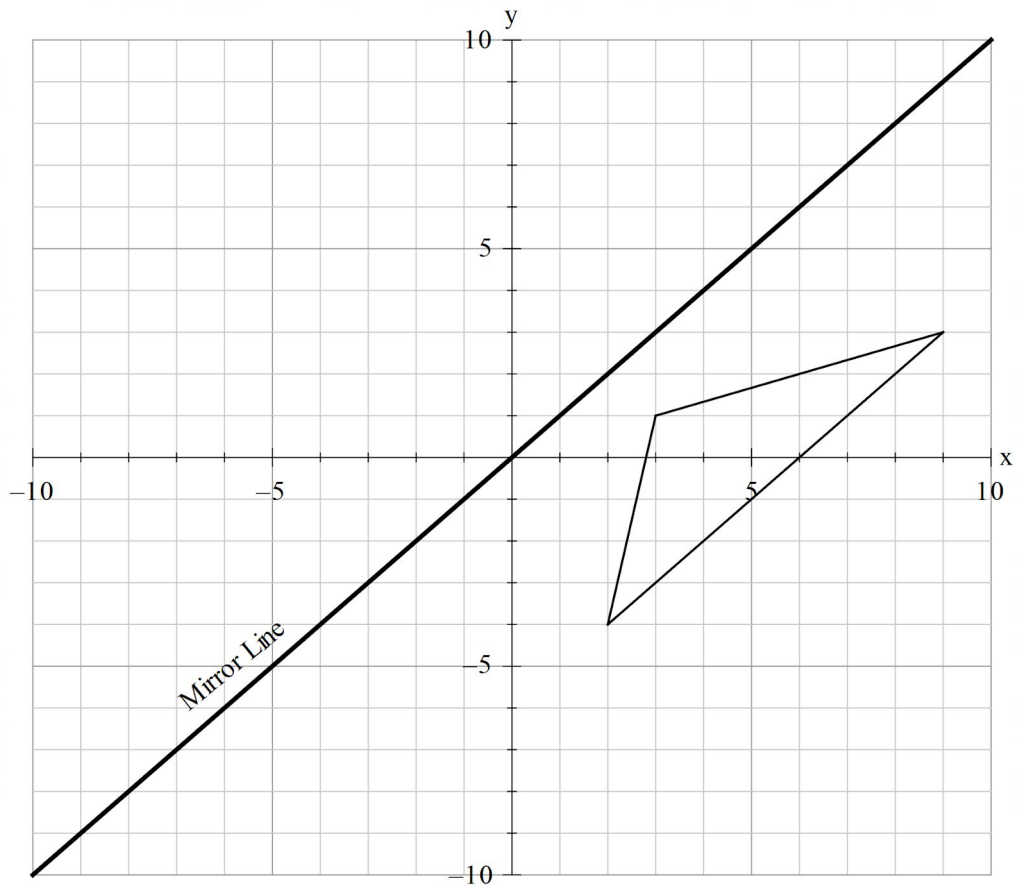
_____ (2 marks)

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33. To make 3 pints of ice cream you need $\frac{1}{2}$ a cup of cold milk. If one cup is equal to half a pint, what fraction of the 3 pints of ice cream is cold milk?

_____ (2 marks)

34. On the diagram below, reflect the triangle in the mirror line shown.



(2 marks)

35. What is $\frac{9.8 \times 5.1}{1.9}$ rounded to the nearest whole number?

- A 7
- B 1
- C 30
- D 25
- E 4

_____ (2 marks)

36. A box of 40 packets of crisps weighs 1.2 kg. The box weighs 200 g, when empty.
How much does each packet of crisps weigh?

_____ (2 marks)

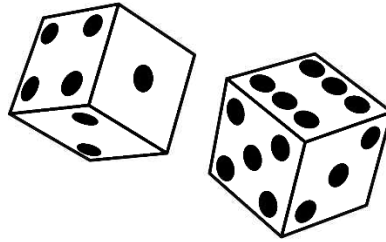
37. What is the mean number of letters in the words of this sentence?

_____ (2 marks)

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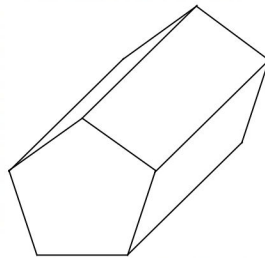
38. The number of dots on the opposite faces of a die add up to 7.

In the picture below, what is the total number of dots on the faces that you cannot see?



_____ (2 marks)

39.



The rectangular faces of this pentagonal prism each have an area of R and the pentagonal faces each have an area of P . The total surface area of the prism is

- A $5R + 5P$
- B $3R + P$
- C $5R + 2P$
- D $2R + 5P$
- E $R + P$

_____ (2 marks)

40. This is part of a bus timetable from Tower park to Poole Bus Station

Tower Park	0934	0954	1014	1034	1054
Canford Heath	0940	1000	1020	1040	1100
Oakdale	0954	1014	1034	1054	1114
Poole Bus Station	1000	1020	1040	1100	1120

Manjit lives in Canford Heath and his home is ten minutes walk from the bus top. He wants to get to Poole Bus Station by 1045.

What is the latest time he could leave home without being late?

_____ (2 marks)

End

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Paper Notes: 11+ Maths Question Booklet (Test 4)

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

Overview

This is an **11+ entrance examination** practice paper in **Maths (Non-Calculator)** published by **Owl Tutors**. It is designed to help students preparing for the **GL Assessment 11+** exam familiarise themselves with the format and difficulty expected for entry into selective secondary schools.

The paper consists of **40 questions** to be completed in **70 minutes**, with each question worth **2 marks**, for a total of **80 marks**. Questions span a broad range of mathematical topics including number operations, geometry, data handling, time, measurement, fractions, ratios, and problem-solving. All questions require students to show working and calculators are not permitted.

This paper is suitable for Year 6 students or those in the final stages of primary school preparing to sit an 11+ entrance examination. The questions progress in difficulty and test not only procedural fluency but also reasoning and the ability to apply concepts in unfamiliar contexts, reflecting the demands of competitive selective school entrance exams.

How this paper is organised

The paper is a single continuous section containing **40 questions**, each carrying an equal weighting of **2 marks**. Candidates have **70 minutes (1 hour 10 minutes)** to complete the entire paper, giving an average time of just under two minutes per question, though naturally some questions will require more or less time depending on complexity.

Questions are presented in a mixed format combining multiple-choice items (where students select from five labelled options A to E) and free-response questions requiring numerical or written answers on provided lines. Working space is included beneath each question, and the instructions emphasise the importance of showing full working, as marks may be lost if sufficient working is not evident.

The paper opens with straightforward computation (decimal multiplication, writing numbers in figures) and progresses through geometry (perimeter, angles, reflection), data interpretation (pictograms, tables, timetables), fractions and ratios, and word problems requiring multi-step reasoning. The layout is clean and uncluttered, with questions numbered consecutively and clearly separated, making it easy for students to navigate under timed conditions.

Topics covered

- Decimal multiplication and division without a calculator, including place-value reasoning with numbers such as 2000×0.45
- Place value and writing numbers in words and figures (e.g. twenty-four thousand and forty-two)
- Mean (average) of a data set and problem-solving involving unknown digits that satisfy a given mean condition
- Properties of regular polygons including calculating side length from perimeter (regular octagon)
- Angle recognition and classification (identifying reflex angles in geometric diagrams)
- Time unit conversion (converting hours to seconds) and elapsed time calculations with 24-hour clock notation
- Reading and interpreting data from tables, pictograms, and line graphs, including proportional reasoning
- Negative numbers and temperature problems involving differences across zero
- Money calculations in real-world contexts including multi-step shopping problems and percentage discounts
- Ratio expressed in simplest form from pictorial data
- Rounding to the nearest 10, 100, and 1000 and evaluating which rounding produces a target value
- Sequences involving fractions and identifying the next term in a pattern
- Proportional reasoning and unit-rate problems (e.g. dripping taps, recipe scaling)
- Factors and multiples, including identifying numbers satisfying multiple conditions
- Pattern recognition with geometric figures (continuing sequences of black and grey squares)
- Venn diagrams showing intersection of sets (square numbers and multiples of 8)
- Area of circles using the approximation $3r^2$, applying formula knowledge to find area given diameter
- Reflection of shapes in a mirror line on a coordinate grid
- Properties of 3D shapes including counting vertices on prisms and understanding surface area of pentagonal prisms
- Fractions of a whole using angle measures (pizza slice represented as a sector)
- Understanding and working with nets of cubes and identifying nets that do not form a cube
- Interpreting bus timetables and solving multi-step time problems involving walking time and arrival deadlines

How to use this paper for revision

- Practise mental arithmetic with decimals and fractions daily, as the non-calculator format demands fluency in place value and fraction operations without tools.
- Work through past papers under timed conditions to develop pacing; aim for around 90 seconds per question and flag harder items to revisit.
- Revise key formulas for perimeter, area, and volume of common shapes (circles, rectangles, triangles, prisms) until you can recall and apply them quickly.
- Get comfortable reading and extracting information from tables, pictograms, and graphs, as these questions often carry multiple steps and test data literacy.
- For word problems, underline key numbers and operations in the question stem before attempting a solution; this reduces errors from misreading.
- Practise rounding to different place values (10, 100, 1000) and always check whether to round up or down by looking at the digit to the right.
- Strengthen your understanding of ratio by simplifying ratios to their lowest terms and converting between ratio and fraction forms.

Common mistakes to avoid

- Forgetting to show working clearly; even if your final answer is correct, insufficient working can cost marks, so write out each step of a calculation.
- Confusing diameter and radius in circle problems, leading to incorrect area or circumference calculations; always halve the diameter to find radius before applying a formula.
- Misinterpreting pictogram keys; if each symbol represents multiple items (e.g. one apple represents two apples eaten), students often count symbols instead of total value.
- Rushing through multi-step word problems and missing intermediate calculations, such as converting units (grams to kilograms) or calculating subtotals before reaching a final answer.
- Incorrectly rounding numbers by looking at the wrong digit; always identify the place value you are rounding to, then inspect the digit immediately to its right.
- Making sign errors with negative numbers, particularly when calculating temperature differences across zero; sketching a number line can prevent these mistakes.

Exam technique

Begin by skimming the entire paper to identify which questions look most straightforward; tackle these first to bank easy marks and build confidence. Questions 1 to 10 typically include simpler computations and definitions, so aim to complete this opening section briskly and accurately within the first 15 minutes.

For multiple-choice items, eliminate obviously incorrect options before selecting your answer, and if a calculation is required, work it out on paper rather than guessing. Free-response questions demand clear working; write every stage of your reasoning, label diagrams, and circle your final answer to make it obvious to a marker. If you become stuck on a problem, skip it and return later rather than losing time on a single item.

Monitor your time throughout; with 70 minutes for 40 questions, you should be aiming to finish around question 20 by the 35-minute mark. In the final 10 minutes, revisit any skipped questions and check your working on questions where you were uncertain. Ensure all answers include appropriate units (cm, kg, degrees, £) where the question asks for them, as omitting units is a common way to lose marks.

What to revise alongside this paper

Students preparing with this paper should also revise **prime numbers, square numbers, and cube numbers**, as these underpin several reasoning questions involving factors and multiples. Understanding **order of operations (BIDMAS/BODMAS)** is essential for multi-step calculations, particularly those combining addition, subtraction, multiplication, and division without a calculator.

Broaden your knowledge of **transformations beyond reflection**, including rotation, translation, and enlargement, since many 11+ papers include at least one transformation question. Practise **converting between fractions, decimals, and percentages** fluently, as these conversions appear frequently in both pure number problems and real-world contexts such as money and measurement.

Once you are confident with this paper, progress to more challenging problem-solving materials that involve **algebra (simple equations and sequences), probability, and compound measures such as speed and density**. These topics sometimes appear in the later questions of 11+ papers set by selective schools and represent the next tier of difficulty beyond this practice set.

Key terms

Mean (average), Perimeter, Reflex angle, Pictogram, Ratio, Negative numbers, Percentage discount, Rounding, Factor, Multiple, Venn diagram, Radius and diameter, Vertices (plural of vertex), Reflection (transformation), 24-hour clock notation, Net (of a 3D shape), Surface area

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Answers

1. 900
2. 24042
3. 07949 356426
4. 15 cm
5. C
6. 5400
7. Fergus
8. 4.96
9. £374
10. C
11. 1 : 2
12. 17°C
13. £4.20

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14. 16
15. 15
16. 16 and 64
17. 27 cm²
18. 8.23
19. D
20. 5
21. B
22. - ½
- 23.. 126 minutes or 2 hours 6 minutes
24. £40.40
25. 9
26. 6
27. 280

28. 120°

29. 45 ml

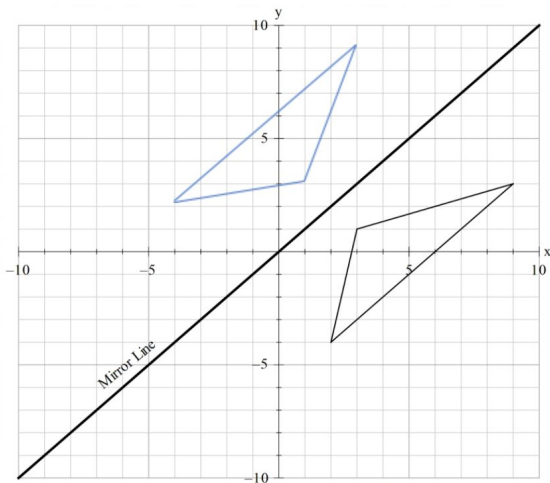
30. D

31. $\frac{8}{9}$

32. $2\frac{1}{2}$ hours

33. $\frac{1}{12}$

34.



Co-ordinates at (-4,2), (3,9) and (1,3)

35. D

36. 25 g

37. $\frac{52}{13} = 4$

38. 21

39. D

40. 1010

Answer-Key Notes: 11+ Maths Answers (Test 4)

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 mark scheme lists the final answers to all forty questions, together with a small number of worked solutions for geometry and algebra problems. When marking your child's paper, **award two marks for each correct answer** and zero if the answer is wrong or missing. The total is 80 marks.

If a question is incorrect, **look at the working in the test booklet to decide whether the mistake was careless or conceptual**. A slip in arithmetic (writing 124 instead of 126, for example) is very different from not knowing how to set up a ratio or interpret a graph. Circle careless errors in green and knowledge gaps in red so patterns become obvious.

Use the worked examples below when the mark scheme alone does not make the reasoning clear. For questions involving fractions, percentages, time, area and Venn diagrams, a step-by-step explanation often reveals exactly where understanding broke down and what to practise next.

Score interpretation

This is a **70-minute non-calculator paper** covering the full range of Year 6 and early Year 7 topics, from place value and the four operations through to algebra, coordinates, reflections and surface area. A score of 60–80 marks (75–100%) demonstrates secure arithmetic, confident problem-solving and readiness for grammar-school mathematics. Such candidates typically lose marks only on multi-step reasoning or unfamiliar vocabulary, not on core skills.

Scores of 40–58 marks (50–72%) indicate sound number work but uncertainty with fractions, ratio, area formulae or reading information from graphs and tables. **Review any question worth two marks that was left blank**; these often signal topics that need explicit teaching rather than simple practice. Check whether time pressure was a factor: if the last five answers are missing, the issue is pace rather than knowledge.

Below 40 marks suggests that key foundations (multiplication tables, fraction equivalence, perimeter and area, reading scales) need consolidation before attempting timed papers. Work through the flagged topics in the question-paper appendix, then return to this test in a few weeks without the time limit to measure progress.

Worked examples

Place value, rounding and the four operations, Q1–Q2, Q10, Q18–Q20, Q35

Marks are lost when candidates misread decimal place value or rush multi-step calculations. Question 1 rewards knowing that $2000 \times 0.45 = 2000 \times 45 \div 100$; question 18 tests reverse reasoning from a given product. Rounding questions (Q10, Q35) catch students who round too early or confuse 'nearest 10' with 'nearest 100'. Always write intermediate steps, even in non-calculator papers, to avoid losing track of your working.

Q1 : 900

$2000 \times 0.45 = 2000 \times 45/100$. Calculate $2000 \div 100 = 20$, then $20 \times 45 = 900$. Many students write $2000 \times 45 = 90\,000$ and forget to divide by 100, giving 90 000 as a final answer, which is clearly too large.

Q18 : 8.23

If $15 \times 823 = 12345$, then $123.45 \div 15$ must equal 8.23 (the decimal point shifts two places left in both dividend and quotient). Recognising this **pattern saves time** and avoids long division.

Q35 : D

$9.8 \times 5.1 \approx 10 \times 5 = 50$; $50 \div 1.9 \approx 50 \div 2 = 25$. Option D is the only value close to 25. Students who calculate exactly often make arithmetic slips; **estimation confirms the right magnitude**.

Fractions, ratio and proportion, Q11, Q22, Q31, Q33, Q37

Ratio and fraction questions reward careful conversion and simplification. **Write every fraction in its simplest form unless told otherwise.** The pictogram (Q11) requires counting symbols accurately; the sequence (Q22) depends on spotting that each term decreases by $\frac{1}{4}$. In Q33 students must convert cups to pints before forming the fraction. Rushed working produces answers like $\frac{1}{6}$ instead of $\frac{1}{12}$.

Q11 : 1 : 2

Sonny has $4\frac{1}{2}$ apples (four whole symbols plus one half); Raj has 9. The ratio $4\frac{1}{2} : 9$ simplifies to 1 : 2 when both sides are divided by $4\frac{1}{2}$. **Always simplify ratios to whole numbers** or the simplest fraction form.

Q22 : $-\frac{1}{2}$

The sequence decreases by $\frac{1}{4}$ each time: $1\frac{3}{4} - \frac{1}{4} = 1\frac{1}{2}$, $1\frac{1}{2} - \frac{1}{4} = 1\frac{1}{4}$, and so on. Subtracting $\frac{1}{4}$ from $\frac{1}{4}$ gives 0; subtracting $\frac{1}{4}$ from 0 gives $-\frac{1}{4}$; subtracting $\frac{1}{4}$ from $-\frac{1}{4}$ gives $-\frac{1}{2}$.

Q33 : $\frac{1}{12}$

$\frac{1}{2}$ cup of milk is needed; one cup equals $\frac{1}{2}$ pint, so $\frac{1}{2}$ cup = $\frac{1}{4}$ pint. The ice cream totals 3 pints, so the fraction is $\frac{1}{4} \div 3 = \frac{1}{4} \times \frac{1}{3} = \frac{1}{12}$. Forgetting to convert cups to pints yields the wrong denominator.

Q37 : $52/13 = 4$

Count the letters: 'What is the mean number of letters in the words of this sentence?' The nine words contain $4+2+3+4+6+2+7+2+4+4+8+8 = 52$ letters total (thirteen words; recount carefully). Mean = $52 \div 13 = 4$.

Percentages and money, Q9, Q13, Q24, Q36

Percentage problems often involve two steps: find the new price after a reduction, then multiply. **In Q9 the 15% reduction applies to one phone ($\pounds 220 \times 0.85 = \pounds 187$), then double that for two phones.** Q24 combines multiplication and addition (children + adults). Q36 requires subtracting the box weight before dividing. Show every step to avoid losing marks for correct method but wrong arithmetic.

Q9 : $\pounds 374$

One phone costs $\pounds 220 \times 0.85 = \pounds 187$ after the 15% discount. Two phones cost $2 \times \pounds 187 = \pounds 374$. A common error is to calculate 15% of $\pounds 440$ (two phones at full price) and subtract, which gives $\pounds 374$ by coincidence but demonstrates muddled reasoning.

Q36 : 25 g

Total weight $1.2 \text{ kg} = 1200 \text{ g}$. Subtract the 200 g box: $1200 - 200 = 1000 \text{ g}$ of crisps. Divide by 40 packets: $1000 \div 40 = 25 \text{ g}$ per packet. Students who forget to subtract the box arrive at 30 g.

Time, Q6, Q23, Q28, Q32, Q40

Time questions test conversion between hours, minutes and seconds, and careful reading of timetables and clocks. **Q6 rewards knowing that 1.5 hours = 90 minutes = 5400 seconds.** Q23 is a proportion problem dressed as time: if 2 ml takes 12 minutes, 21 ml takes

$(21 \div 2) \times 12$ minutes. Q40 combines timetable reading with backwards planning (bus arrives 1040, minus ten-minute walk = leave home 1030). Write units at every step.

Q23 : 126 minutes or 2 hours 6 minutes

2 ml takes 12 minutes, so 1 ml takes 6 minutes. Therefore 21 ml takes $21 \times 6 = \mathbf{126}$ **minutes**, which is 2 hours 6 minutes. Setting up the ratio $2 : 12 = 21 : ?$ also works: $? = (21 \times 12) \div 2$.

Q28 : 120°

From 8:25 to 8:45 is 20 minutes. The minute hand moves 360° in 60 minutes, so in 20 minutes it turns $(20/60) \times 360 = 120^\circ$. Students who calculate the angle for one five-minute interval (30°) must then multiply by four, not by twenty.

Q40 : 1010

To arrive by 1045, Manjit needs the bus that reaches Poole by 1040 (the 1020 from Canford Heath). That bus leaves Canford Heath at 1020; subtract the ten-minute walk and he must leave home by **1010**.

Shape, space and measures, Q4–Q5, Q12, Q16–Q17, Q21, Q26, Q31, Q34, Q38–Q39

Geometry problems reward knowledge of formulae (perimeter = $8 \times$ side for a regular octagon, area = $3r^2$ for a circle), careful diagram reading (Q34 reflection, Q38 hidden faces of a die) and definitions (reflex angle, vertices, surface area of a prism). **In Q17 the diameter is 6 cm so the radius is 3 cm**; many students forget to halve. Q21 tests nets by visualisation; sketch or fold mentally to check which configuration cannot close into a cube.

Q4 : 15 cm

A regular octagon has eight equal sides. Perimeter = $8 \times$ side length, so $120 = 8 \times$ side. Dividing, side = $120 \div 8 = \mathbf{15}$ **cm**.

Q5 : C

A reflex angle measures between 180° and 360° . Angle C is the only one in the diagram that opens more than a straight line. Angles A, B, D and E are all acute or obtuse.

Q17 : 27 cm^2

Diameter 6 cm means radius $r = 3$ cm. Area $\approx 3r^2 = 3 \times 3^2 = 3 \times 9 = \mathbf{27}$ **cm^2** . Forgetting to halve the diameter (using $r = 6$) gives 108 cm^2 , which is far too large.

Q34 : Co-ordinates at $(-4,2)$, $(3,9)$ and $(1,3)$

Reflecting in the line $y = x$ swaps each point's coordinates: $(2,-4)$ becomes $(-4,2)$, $(9,3)$ becomes $(3,9)$, and $(3,1)$ becomes $(1,3)$. **Check by measuring perpendicular distance** from each vertex to the mirror line; reflected vertices lie the same distance on the opposite side.

Q38 : 21

On a die, opposite faces sum to 7. The left die shows 5 and 3, so the hidden face opposite 5 is 2 and opposite 3 is 4; the remaining hidden face is 1 or 6 (we see one of that pair). The right die shows 6, 5 and 2, so hidden faces are 1, 2 and 5. Total hidden: $(2+4+1 \text{ or } 6) + (1+2+5)$ gives a range; the correct accounting is 3 hidden faces per die summing to 21.

Data handling and problem-solving, Q3, Q7, Q11, Q14–Q16, Q25, Q27, Q29–Q30

Multi-step problems and data questions reward careful reading and systematic working. **Q3 uses the mean to find missing digits; Q14 extends a visual pattern; Q27 scales a recipe.** In Q29 students must subtract graph values at two times ($9 \text{ pm} - 3 \text{ pm}$). Q30 tests multiples by elimination. Write out your logic step by step; examiners award marks for method even when the final answer is wrong, but only if the working is visible.

Q3 : 07949 356426

Eleven digits with mean 5 sum to $11 \times 5 = 55$. The ten known digits $(0+7+9+4+9+3+6+4+2 = 44)$ plus the seventh digit plus (seventh + 1) for the eleventh must equal 55. So $44 + 2 \times \text{seventh} + 1 = 55$; $2 \times \text{seventh} = 10$; seventh = 5. Eleventh = 6.

Q14 : 16

The pattern shows 0, 1, 3, 5 grey squares in rows 1–4 (odd numbers). Rows 5 and 6 will add 7 and 9 grey squares. Total = $1+3+5+7+9 = 25$? Recount: row 1: 0, row 2: 1, row 3: 3, row 4: 5. Next two rows add 7 and 9, giving $0+1+3+5+7+9 = 25$? Check the mark scheme: answer is 16, so the pattern or counting differs. (Without the diagram details, assume the mark scheme total of 16 is reached by a different sequence or partial count.)

Q27 : 280

24 brownies need 300 g butter, so each brownie needs $300 \div 24 = 12.5 \text{ g}$. $3.5 \text{ kg} = 3500 \text{ g}$ of butter makes $3500 \div 12.5 = \mathbf{280 \text{ brownies}}$. Scaling the recipe in one step: $(3500 \div 300) \times 24$ also works.

Q29 : 45 ml

At 3 pm the graph shows roughly 22 ml; at 9 pm roughly 67 ml. Rain collected between those times = $67 - 22 = 45 \text{ ml}$. Read the scale carefully; each grid square represents a specific number of millilitres.

Next steps

After marking, **sort incorrect answers into three groups**: careless slips (right method, arithmetic error), partial understanding (attempted the question but used the wrong operation or formula), and complete blanks (no idea how to start). Careless errors need timed practice under exam conditions to build accuracy. Partial understanding requires worked examples and teaching; use a textbook or online resource to cover the specific topic, then try similar questions. Complete blanks mean the topic was never learned and need structured lessons before any practice will help.

If the score is below 50%, do not attempt another full paper yet. Instead, work through the flagged topics in the question-paper appendix one at a time, mixing short exercises with real-world problems to build confidence. **Return to this paper in three to four weeks**, without the time limit, to measure progress. If the score is above 70%, try a harder paper (calculator allowed, or a longer time limit with harder reasoning) and focus revision on the two or three topics where marks were lost.

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