

DEMONSTRATION SET • SAMPLE

11+ Mathematics

Five-item demonstration set

NUMBER & PLACE VALUE • FRACTIONS, DECIMALS & PERCENTAGES
RATIO & PROPORTION • MEASUREMENT



HOW THIS SET WAS FORGED

Struck twice, checked line by line.

Nothing in this set left the forge on a single pass. Every item was written, then independently re-solved before the answer key was opened.

Independent re-solve

Keys are confirmed by agreement between two blind solves, not by trust.

Severity-tiered flagging

Findings are graded so you see instantly what must change, what should change, and what is style:

RED FLAG

CAUTION

NOTE

Corrections, not comments

Every flag ships with a copy-paste-ready fix. Your team pastes, they do not decode.

AI drafted, human verified

AI-generated items get the same treatment: stress-tested line by line for the logic errors and hallucinated keys that models miss.

IN THIS SET

Five items in the five-option (A to E) convention across Number & Place Value, Fractions, Decimals & Percentages, Ratio & Proportion, and Measurement, each with a stepwise worked solution in exam-appropriate language.

The pages that follow are working output in the exact format clients receive, watermarked as a sample. Intellectual property in commissioned work transfers fully to the client on final payment.

Question-1

#New

#Identify the Number Pattern

Look at the three numbers below:

27 64 125

The three numbers are alike in some way. Select ONE of the following to say how they are alike.

Option A	They are all square numbers
Option B	They are all even numbers.
Option C	They are all prime numbers.
Option D	They are all cube numbers.
Option E	They are all multiples of 4.
Correct Answer	Option D

Solution:

Look at the numbers closely.

$$27 = 3 \times 3 \times 3 \text{ (3 cubed)}$$

$$64 = 4 \times 4 \times 4 \text{ (4 cubed)}$$

$$125 = 5 \times 5 \times 5 \text{ (5 cubed)}$$

Since they are all the result of multiplying a number by itself twice, they are all cube numbers.

Question-2

#New

#Combinatorics

How many **even** three-digit numbers is it possible to make, using just the digits **5, 6, and 7**? (You can use each number more than once in a particular 3-digit number.)

Option A	3
Option B	6
Option C	9
Option D	18
Option E	27
Correct Answer	Option C

Solution:

We need to make a 3-digit number that is even.

- Step 1 (The last digit): To be even, the number must end in 6. (This is the only choice).
- Step 2 (The middle digit): This can be 5, 6, or 7. (3 choices).
- Step 3 (The first digit): This can be 5, 6, or 7. (3 choices).

Total combinations = $1 \times 3 \times 3 = 9$ numbers.

(Listing them helps check: 556, 566, 576, 656, 666, 676, 756, 766, 776)

Question-3

#New

#Real-World Discount

A cinema ticket costs £12 per person. A "Family & Friends" deal offers a 15% discount if you book for a group of 5 people. How much would a group of 5 pay in total using the discount?

Option A	£50
Option B	£51
Option C	£54
Option D	£55
Option E	£60
Correct Answer	Option B

Solution:

First, find the normal cost for 5 people: $5 \times £12 = £60$.

Next, find the discount (15% of £60).

- 10% of £60 = £6.
- 5% of £60 = £3.
- So, 15% is £6 + £3 = £9.

Finally, subtract the discount from the total price: $£60 - £9 = £51$.

Question-4

#New

#Ratio Word Problem

There are 48 counters in a box. There are five times as many Blue counters as Red counters. How many Blue counters are there?

Option A 8

Option B 30

Option C 36

Option D 40

Option E 42

Correct Answer **Option D**

Solution:

This is a ratio problem. "Five times as many Blue as Red" means for every 1 Red counter, there are 5 Blue counters.

- Step 1: Find the total number of "parts" or groups. $1 \text{ (Red)} + 5 \text{ (Blue)} = 6$ parts in total.
- Step 2: Divide the total number of counters by the number of parts. $48 / 6 = 8$. (So, 1 part equals 8 counters).
- Step 3: Calculate the number of Blue counters (5 parts). $5 \times 8 = 40$.

(Check: Red = 8, Blue = 40. $8 + 40 = 48$. Correct.)

Question-5

#New

#Measurement

Here is a train timetable:

Departure: 14:45	Arrival: 15:12
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How long does the journey take?

Option A	17 mins
Option B	22 mins
Option C	27 mins
Option D	37 mins
Option E	1 hr 27 mins
Correct Answer	Option C

Solution:

Count up from the start time.

- From 14:45 to 15:00 is 15 minutes.
- From 15:00 to 15:12 is 12 minutes.

Total time = 15 + 12 = 27 minutes.



FREE, NO STRINGS

Send 10 questions.

Get a severity-tiered QC report in 72 hours.

Pick any 10 items from your existing bank. We re-solve them independently and return verified keys, issues flagged by severity, and corrections your team can paste straight in. If your content is clean, you get that in writing. If it is not, you find out from us instead of from a parent.

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Bespoke curriculum, **forged to fit.**