The Complete GL 11+ Programme – Preview Maths and Non-Verbal Reasoning

This preview is designed to show you in some depth the work we'll go through in this course. It covers the Maths and Non-Verbal Reasoning elements of the GL 11 Plus exam.

Who is this course right for?

- The course is designed to fully prepare pupils for the Maths and Non-Verbal Reasoning elements of the GL 11 Plus exam and should be central to the work of any child preparing at home. If you would like a course that covers all aspects of the GL 11 Plus exam, our Complete GL 11+ Programme is also available.
- It is also very useful for any child using a tutor or going to a tuition centre. **Many Tutors use our courses as the basis of their work, especially for setting homework. If your tutor doesn't give homework then this course will fill the gap.**
- The programme is perfect if your child has 30 - 40+ weeks to go until the exam. It is delivered in 40 parts. Ideally a week would be spent on each part, however the programme could be completed more intensively in 30 weeks, or in a more relaxed way over longer than 40 weeks.

Why is the course so successful?

- The course is fully planned and structured, which makes life much easier for parents than using books alone.
- Revision and tests are gradually introduced so that children build their skills and confidence as they go.
- While the course is regularly updated, the core of it has been used for many years with proven success.

SCROLL DOWN TO SEE COURSE EXAMPLES

↓

The Complete GL 11+ Programme - Preview
Maths & Non-Verbal Reasoning
This course will help you to develop all the skills you need for the exam. If you do a little work each day and work consistently you will give yourself the best chance.

Maths

1. **Working Accurately**

-   **Accuracy table.** Children who can carry out times table based maths quickly and accurately will be well placed to succeed. This test indicates how good your skills are. It's tough, but remember whatever your result, you can always improve. This test will be repeated three times.

-   **Spot the mistakes.** The more alert children are to mistakes, the fewer they will make.

2. **Mental Maths Technique Development.** These sheets focus on giving children some tips for working quickly with mental calculations.

3. **Mental Maths.** These questions are reasonably straightforward and children should be aiming for full marks, especially on those questions they feel they should know.

4. **Sudoku Fractions and Decimals.** A fun table to fill out. Can you get to the right answer?

5. **Shapes Revision.** It's important to know your shapes well. Read this carefully, cover up the words and see if you can remember the descriptions. Get someone to read the descriptions out loud and see if you can name the shapes.

Clear Instructions
Every part of The Complete 11+ Programme starts with a front sheet like this. It details every item of work that is in that part and, where relevant, gives guidance on how to approach each item. Full answers are provided for every question.

Non-Verbal Reasoning

6.   **NVR Type 1 - Like Shapes.** Your first Non-Verbal Reasoning question type. These are not difficult to learn but you need to concentrate to deliver accurate work. Please spend enough time understanding the question type and looking in detail at the answer then go on and do the five questions. If you make a mistake, it's really important that you work out why, otherwise you will not improve. Very full answers to these questions are given to help you to grasp the concept.

Organised for you
One of the main problems with using books is that it is difficult to know which ones to buy, which order to do the work in and what to cover. Parents have fed back to us that this programme solves that problem, leaving them free to help their child.

- Please sign below when you have completed everything.
- Your helper may have to test you on some things.

Signed: (Parent/Teacher and Pupil)…………………………………………………

We hope you enjoyed your first part of the course.

Speed and Accuracy Test

- You have five minutes. Children should be working towards scoring 100%.
- Watch out for the changes to + / ÷ / - / x
- This test will be repeated five times, where mistakes are made it will be an indication that further times tables work and attention to detail is necessary.

8 + 7 =	9 – 4 =	6 x 7 =	54 ÷ 6 =	8 + 4 =
7 x 5 =				=
12 – 7 =				=
96 ÷ 8 =			9 =	
6 x 3 =				=
5 + 8 =			3 =	
5 x 6 =				=
5 + 7 =	15 – 6 =	48 ÷ 6 =	5 + 4 =	64 ÷ 8 =
16 – 8 =	36 ÷ 9 =	8 + 8 =	42 ÷ 7 =	7 x 7 =
7 x 6 =	9 – 6 =	72 ÷ 9 =	9 + 8 =	108 ÷ 9 =
17 – 9 =	9 + 6 =	6 x 8 =	19 – 7 =	12 + 5 =
8 x 3 =	7 x 8 =	63 ÷ 7 =	6 + 9 =	11 – 7 =
11 – 6 =	32 ÷ 8 =	12 – 9 =	7 x 4 =	13 + 6 =
8 x 6 =	14 – 5 =	7 + 5 =	63 ÷ 9 =	9 x 9 =
5 x 7 =	2 + 9 =	45 ÷ 9 =	4 + 3 =	13 – 7 =
7 – 2 =	56 ÷ 8 =	8 x 12 =	13 – 8 =	32 ÷ 4 =
3 + 7 =	16 – 7 =	7 + 8 =	4 x 6 =	14 – 6 =
12 – 9 =	9 x 3 =	11 – 8 =	49 ÷ 7 =	5 + 8 =
8 x 9 =	6 + 7 =	27 ÷ 9 =	15 – 4 =	9 x 7 =
72 ÷ 8 =	13 – 9 =	5 x 12 =	4 + 8 =	18 - 7 =

Speed and Accuracy Tests

At the beginning of the course we spend time exposing whether pupils have sufficiently solid core skills. As these skills provide the fundamental basis from which children will develop, ensuring these are well established will aid them during the other sections of the course.

Score   /100

Spot the Mistakes - Maths

- **Victor has completed his Mental Maths task but unfortunately he's made a number of mistakes. His answers are underlined.**
- **Circle the mistakes. See if you can work out where he might have gone wrong.**

① 300 + 6000 + 80 = _6380_

② 2 ½ Kg – 800 g = _1700g_

③ £1.00 – 58p = _42p_

④ Find the sum of £ ... £2.85 = _£4_

⑤ Find the total cost of 5 cards each costing 22p = _£1.22_

⑥ What is the product of 9 + 99 = _108_

⑦ From 1070mm take 20cm = _1050mm_

⑧ 1 – $^3/_8$ = $^5/_8$

⑨ 116mm = _11cm 6mm_

⑩ ... _1.04_

⑪ 2km 90m = _290m_

⑫ What is the product of 8 and 50 = _58_

> Switching on their self-checking skills helps children work more accurately in the exam.

Area Problems

A rectangular garden comprises a rectangular flowerbed surrounded on three of its sides by a lawn.

Answer the following questions which relate to this diagram.
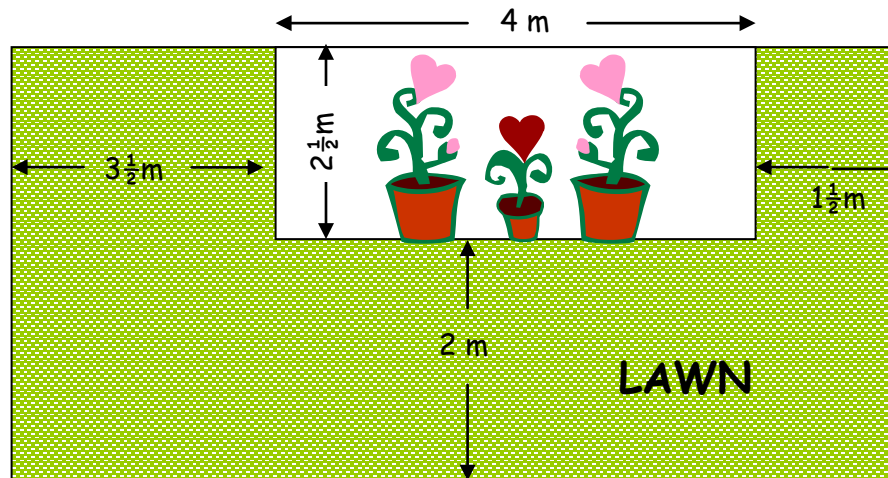
a) How long is the garden? _____

b) How wide i[...]

c) Work out, [...]
   Answer:___[...]

d) Work out, [...]
   Answer: ___[...]

e) What is th[...]
   Answer: ___[...]

We also make sure we cover the core topics children may get questions on. This sheet is one we use to help children learn about area.

Other core topics covered include:
- Shapes
- Fractions
- Factors
- Volume
- Averages

f) Find the cost of re-sowing the lawn if grass seed costs £1.86 for each square metre of lawn.
   Answer: _____

The BODMAS Rule

The rule for the order in which you conduct calculations is: **BODMAS**

This means:
Brackets **O**rders **D**ivision **M**ultiplication **A**ddition **S**ubtraction.

In other words:

1. You must work out the sum in the **B**racket first and then complete any **O**rders (this also means indices, powers, or roots e.g. 3²).

2. Next you must work out any **D**ivison or **M**ultiplication.

3. Finally complete any **A**ddition or **S**ubtraction required.

Remember – if a number appears immediately before a bracket it means you must **M**ultiply (the result of the sum in the bracket) by that figure, so: 5(3.1 + 1.9) means 5 x (3.1 + 1.9) = 5 x 5 = 25

Here is an example of the **BODMAS** rule in action:

$$6(1.2 + \text{...}$$
$$= 6 \times 2$$
$$= 12 - 3$$
$$= 9 \checkmark$$

> **BODMAS**
> *This is another example of the focus we place on individual topic knowledge. For some children topics will be entirely new, for others it will act as useful re-enforcement.*

Now look at th...

6(2.36 + 5.62) =   Do the **B**racket sum first - 2.36 + 5.62 = 7.98
6 x 7.98 = 47.88 ✔   Then **M**ultiply

Please file this away safely because you will need to refer to it again.

TIMED TEST NUMBER 1

You have 30 minutes to complete this test.

Write the missing number in the box:

1.

$$8\overline{)\quad}$$

3.

$$7\overline{)7\ 6\ 3}\qquad 1\ 0\ \boxed{}$$

$$5\overline{)7\ \boxed{}\ 5}\qquad 1\ 5\ 3$$

This calculation has the same number missing from each box. What is it?

5. $\boxed{} \times \boxed{} - \boxed{} = 30$

The thick line from A to B divides the area of this grid into two halves:
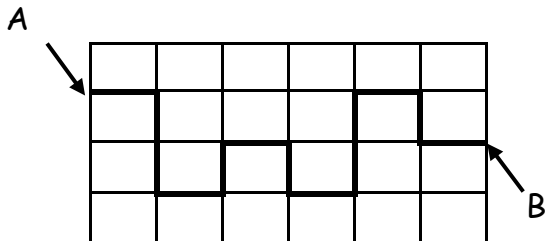
6. Divide the area of this grid into two halves. Start at A and go along the lines, finishing at B.
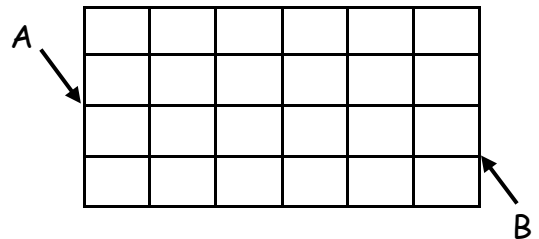
Mathematics Revision Test 2

1. 323.76 + 19 hundredths
    = _____

2. Draw a hexagon in this space:

3. 13^2 = _____

4. Draw an obtuse angle – label it.

5. Draw a rhombus

6. 724 ÷ 100 = _____

7. Find the volume of a cube with sides measuring 11 cm.
    = _____

8.
    19 cm

    14 cm

    Find the area of this shape:
    = _____

9. 4.9 L = _____ mls

10. Write 555 tenths as a decimal = _____

11. 9 squared = _____

    Are you improving?   YES/ANY MINUTE NOW

12. 12 x 8 = _____

13. 6 x 7 = _____

14. 9 x 6 = _____

15. How many tenths in 23.9?

    NO/YES

20. How many lines of symmetry has a hexagon?
    = _____

SCORE BOX:

_____
20

I can remember how to do long multiplication!

5. Complete the following money problems.

a.　A single bus fare to work costs £1.25. How much have I spent altogether on bus fares by the time I have returned home?　_____

b.　If I go to the newsagent and buy 5 magazines costing £3.99 each. How much d[...]　_____

c.　I[...]　[...]I bought in questio[...]　_____

6. Ans[...]

a. Six squared　= _____

b. The cube root of 27

　= _____

c. 60% of £60.00

　= _____

d. 2(p – q) when p = 4.7 and q = 2.3　= _____

e. The square root of 6　= _____

f. Two fifths of 75kg　= _____

g. 4(x + y) when x = 6.1 and y = 3.8

　= _____

---

7. If a = 5, b = 4 and c = 2, answer the following questions:

a.　c x a　= _____

b.　a + c – b　= _____

c.　a x c ÷ b　= _____

d.　b x a – c　= _____

e.　(b+c) x (b-c)　= _____

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8. How many lines of symmetry do these shapes have? Some may have none.

a.

b.

c.

d.
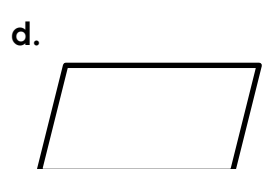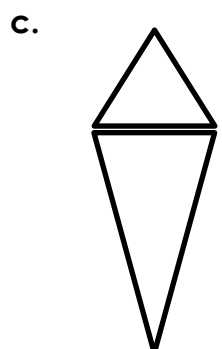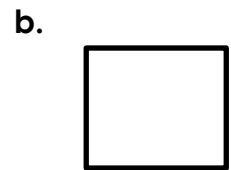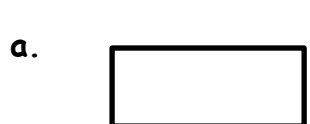
Non-Verbal Reasoning

In these questions you will be given an example where one shape becomes another shape. You will then be given a question shape and be asked to choose which one of five shapes it should become. You should use the example to help you choose. You should look at the example and understand exactly what changes for it to become the second shape and then apply the same reasoning to the question shape.

What to look out for

As with all Non-Verbal Reasoning question types this is largely a test of **logic** and **close observation**.

- How many sides do the shapes have?
- Are they rotating, and if so in which direction and by how many degrees?
- Are they reflectio~~~~
- Have the shapes ge~~~~ diagonal lines then~~~~
- What size are the~~~~
- What thickness or~~~~ shapes? Boldness i~~~~
- Do shapes that are~~~~

We introduce each different type of non-verbal reasoning question with a very detailed explanation and an example, providing technique advice.

Technique tips

- Focus exactly on how the first shape has changed to become the second shape, more than one thing may have changed.
- Make a list of the changes if necessary.
- Once you have done this look at the answer options and see which has changed in the same way.
- Often you will be left with two options which are close, there will always be a small distinguishing item which makes one of these a closer match than the other (e.g. direction of diagonal lines within a shape). You will need to renew your focus to find it.
- Unless you are doing a timed test do one question at a time. Give your answer then check if it is correct and review the explanation. This takes time but looking at the answer and explanation while the question is still fresh is the only way to learn.

Example
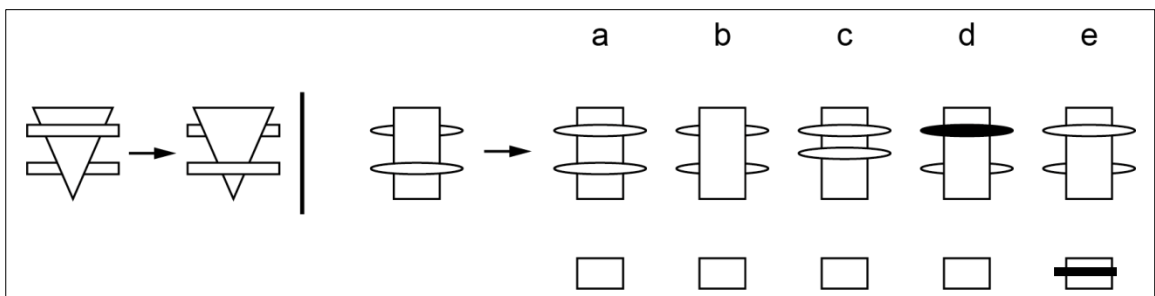
Explanation

There is no change in the large shape from the first set of shapes to the second. However the shape that is behind the larger moves to the front and the other shape that is in front moves behind.

Non-Verbal Reasoning

1

2

Like Shapes - Examples

Having explained the question type, we give children a few questions to try out to secure their learning. Very detailed answers are given to help children learn from their mistakes.
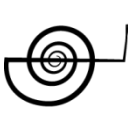
3

4

5

Non-Verbal Reasoning

3. ROTATIONS / TYPE 3
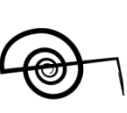
1

	a	b	c	d	e

2

3

Timed Papers

30 timed papers are included in the course once children have mastered the basics of the main non-verbal reasoning question types. Some of the papers are shorter, focusing on technique and accuracy, whereas others replicate more closely the volume and speed of the 11 Plus exam.

This particular sheet is part of one of our longer tests of 27 questions.

Maths

Speed and Accuracy Test

15	5	42	9	12
35	6	40	15	2
5	14	63	7	72
12	11	12	1	6
18	8	84	5	1
13	5	0	14	4
30	11	16	4	54
12	9	8	9	8
8	4	16	6	49
42	3	8	17	12

Spot the Mistakes

① 5 thousands and 4 units

(The 5 is in the thousands column. Sometimes children make the mistake of seeing the 4 and taking it out leaving the 500)

④ Answers should be a)100 and b)200

(There are 1000 metres in a km not 100)

⑤ £3.10

The child may have leapt to the answer seeing the 4 and the 6 and forgetting all about the two fives

⑥ 145

Not reading the question which is effectively 'find the sum of'.

The question expects children to multiply 29 x 5 (they could multiply 30 x 10 (300) divide by 2 (150) and take away 5 (145) as a quick way through this)

⑫ 7 x 6 = 42 not 52

So 42 – 12 = 30

Mental Mathematics Skills Development

1) 231

2) 26

> There are answers provided for every question in each part of the course.
>
> Where a full detailed explanation is needed we give it.

9) 156

10) 112

Mental Mathematics

1) 7/8

2) 270

3) 200cm

4) 17

5) 19

6) 7/16

7) 143min

8) 101

9) 600ml

10) 4.2kg

11) 62

12) 150g