King's 1502

2027 Entry

12+ Entrance Examination

Guidelines and Sample Questions

English
Maths
Verbal Reasoning
Non-Verbal Reasoning

12+ Exam Guidelines

The 12+ Entrance Examination consists of papers in English, Mathematics, Verbal and Non-Verbal Reasoning. Pupils are expected to be of above average academic ability at this age but the aim is to test potential as well as specific knowledge. Copies of past papers are not supplied but we have outlined the content of each exam below to give you an idea of what will be involved.

12+ English Examination (1 hour)

The examination will last 1 hour and there are two sections:

Section A: Reading (40 minutes)
Candidates will be given a short reading passage (fiction) and asked a series of questions based on this. At first they will test explicit understanding of the passage, asking for fact retrieval, before providing a series of quotations and asking candidates to engage in detail with the language and literary techniques used. The final section asks entrants to consider the structure of the extract, using quotations in support.

Section B: Writing (20 minutes)
In Section B, pupils will demonstrate the accuracy and imagination of their writing by completing a short descriptive or narrative task. We are looking for engaging and lively ideas, varied and controlled grammatical features, and a broad, ambitious vocabulary that is spelled correctly. Paragraphing and appropriate punctuation will be used to make the sequence of events or ideas coherent and clear to the reader. We acknowledge that the response will be relatively short with just 20 minutes.

12+ Maths Examination (1 hour)

There will be a written paper lasting 1 hour. This will consist mainly of short questions, with working and answers to be shown on the question paper. There is no choice of questions. Electronic calculators may not be used.

<u>Areas to be covered include:</u>

NUMBER

- Whole number calculations including multiplication and division of 3 digit numbers by 2 digit numbers
- Prime numbers, multiples and factors, squares and cubes
- The concept of negative numbers and their applications
- Decimals:- Addition, subtraction, simple multiplication and division. Simple recurring decimals
- The decimal system used with money; length (mm, cm, m, km); mass (g, kg); capacity (ml, l)
- Degree of accuracy:- significant figures and decimal places. Estimating answers to multiplication and division problems
- Manipulation of fractions (simplification, addition/subtraction, multiplication/division)
- Calculating percentages of quantities
- Elementary problems involving time, distance and speed

- The 24-hour clock, timetables, travel graphs
- Conversion graphs

ALGEBRA

- Introduction to algebraic notation:- the four operations +, -, x, ÷ used algebraically
- Sequences and rules for generating them
- Using simple formulae or equations expressed in symbolic form
- Using coordinates in all four quadrants

SHAPE

- Properties of angles associated with intersecting and parallel lines and triangles
- Recognising the following shapes:- cuboid, cube, sphere, cylinder, cone, pyramid
- Classifying types of quadrilateral
- Calculating areas and perimeter of plane shapes:- square, rectangle, triangle
- Calculating volume of cubes and cuboids
- Symmetry of plane figures

HANDLING DATA

- Extracting data from diagrams such as bar charts, pictograms, line graphs and frequency diagrams
- Interpreting pie charts
- Collecting, grouping and ordering discrete data to create a frequency table
- Listing all possible outcomes of an event

Notes:
The examination may contain questions on any parts of the above syllabus. However, at the time of the examination it is not necessarily expected that candidates will have covered every item. The variety of questions should enable the competent candidate to demonstrate his/her ability.

Verbal Reasoning Practice Paper

Candidates will be given the opportunity to undertake a short practice session before they attempt the actual paper. This practice takes 15 minutes and the supervising member of staff will go through the answers with the candidates. Candidates mark their own practice paper and can ask for guidance if they are unclear on what the paper involves.

They are then given 45 minutes to complete the Verbal Reasoning paper. This paper requires children to work quickly and accurately. We recommend that candidates skip any questions they cannot answer and return to them at the end. Any remaining time should be used to double check their answers.

You have 15 minutes in total to complete the Verbal Reasoning Practice Paper below.

1.	**<u>Underline</u> the word in brackets which *cannot* be made by rearranging some of the letters of the word RAMBLE.** (lamb/marble/apple/bear/blame)

▶	Here is an example: puppy, dog; kitten (.....) x x x One word has to be completed. The crosses show that there are three letters in the missing word. puppy, dog; kitten (*cat*) x x x Just as a puppy is a young dog, so a kitten is a young cat, so we have written 'cat' in the brackets.
2.	**Now do this in the same way. Write one letter for each cross, and spell correctly.** up, down; high (.....) x x x

▶	Read this carefully: Alan, Brian, Carl and David are four boys. Only Brian and David are ten years old; Only Alan and David have sisters
3.	**Which boy is ten years old but does not have a sister?** (.....)

Here are three words:

HOT TON NOT

Below you will find the same three words written in a secret code, and in a different order. All the words are written in the same code.

Work out which word each code stands for, and write the word in the brackets beside its code word. Spell correctly.

4.	X □ *	(.....)
5.	△ □ *	(.....)
6.	* □ X	(.....)

7. **This question makes use of a code.**
Underline the correct word in the bracket.

If LGRT stands for date, TGR stands for (tea / east / eat / ate / art)

Look at this example:

can, ran; cat, rat; cave, *(rave)*

We have to find the rule by which the second word of each pair is made form the first. By changing 'c' into 'r', 'can' becomes 'ran' and 'cat' becomes 'rat'. In the same way, from 'cave' we get 'rave', so we have written 'rave' in the brackets.

8. **Now do this:**

Sent, nest; node, done; dame, (.....)

The alphabet is printed below to help you with the next question.

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

9. **The row of letters below follows a rule.**
Add the next two letter in the row.

A, C, E,.....,.....

10. Which letter appears once in INFER and once in INDIFFERENCE?

(.....)

11. **The row of numbers below follows a rule.**
Add the next number to the row.

99, 92, 85, 78, ...

END OF PRACTICE PAPER

12+ Verbal Reasoning Answers

1. apple
2. low
3. Brian
4. NOT
5. HOT
6. TON
7. eat
8. made
9. G / I
10. R
11. 71

Non-Verbal Reasoning Example Questions

These questions are all about shapes and patterns.

There are two basic types of question.

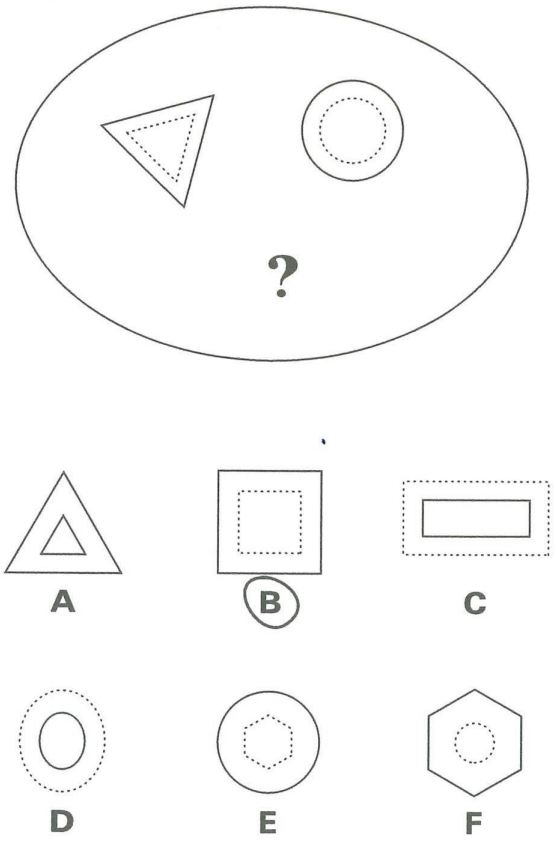
In the first type, you are given two figures inside a large oval. You have to decide how they are alike and then find which of the six figures below them also belongs inside the oval.

Look at Example 1.
The answer letter has been circled for you.

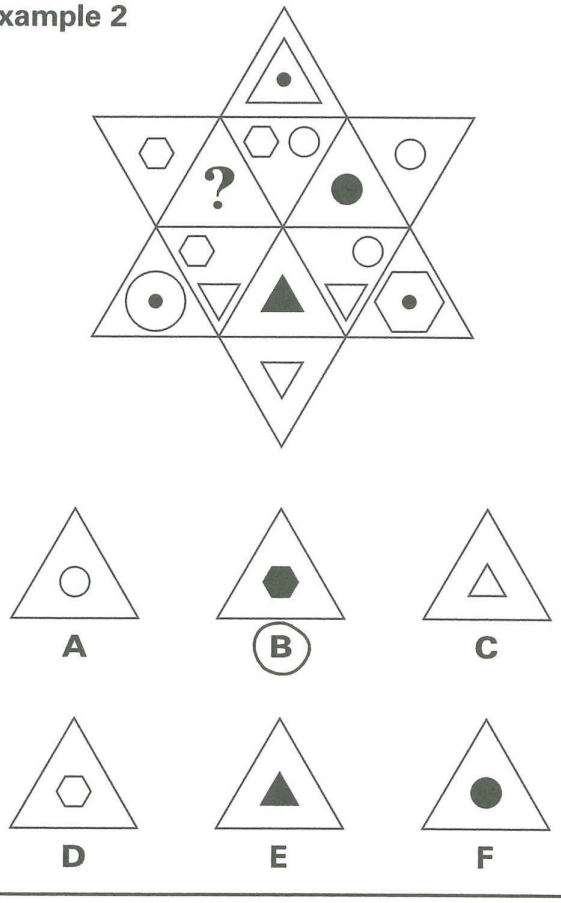
All the other questions have figures arranged in a pattern. In each question, one piece is missing. Its place is shown by a question mark. You have to decide which of the six figures is the missing one and circle its letter.

Look at Examples 2 and 3 below.
The answer letters have been circled for you.

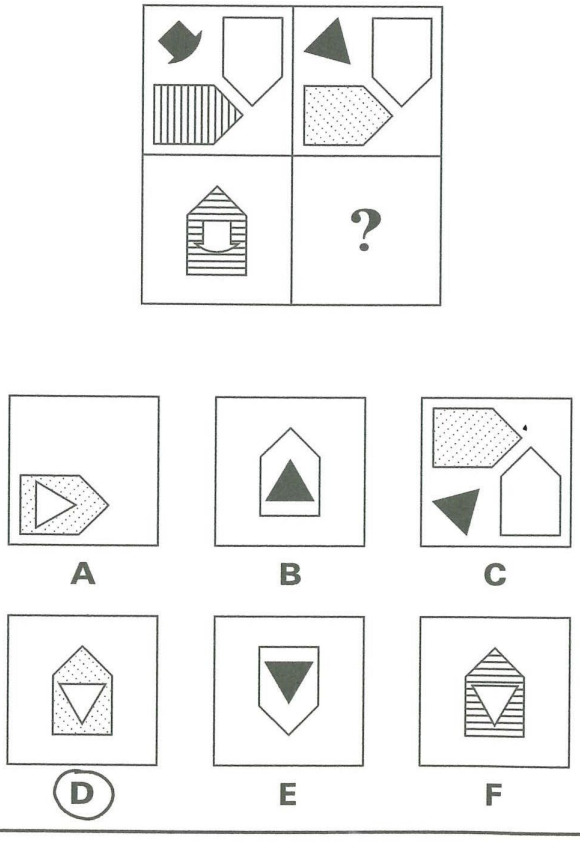
Example 1



Example 2



Example 3



12+ Non-Verbal Reasoning Example Answers

Example 1
The answer is **B** because the figures in the oval both have solid outer edges, and there is a smaller, dotted version of the same shape inside them.

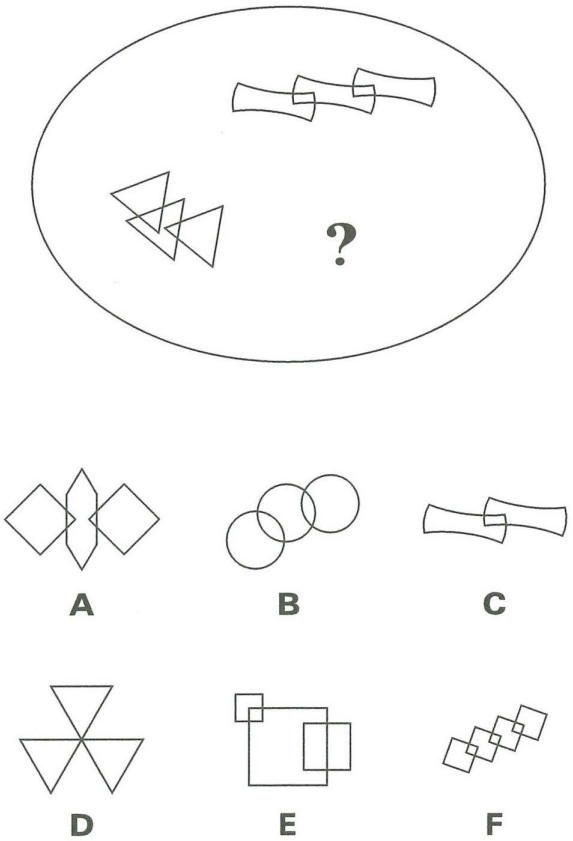
Example 2
The answer is B because the single white shapes in the points of the star are repeated, in black, in the nearest inner triangle.

Example 3
The answer is D because as you move to the right, the stripes become dots and the hat shape becomes a triangle. Everything else stays the same.

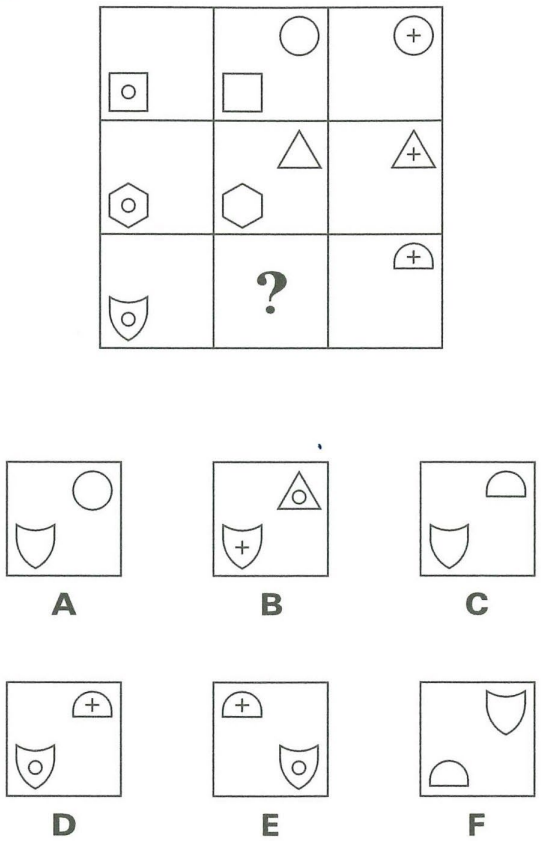
On the next page you will find some further practice questions to work through.

Non-Verbal Reasoning Practice Questions

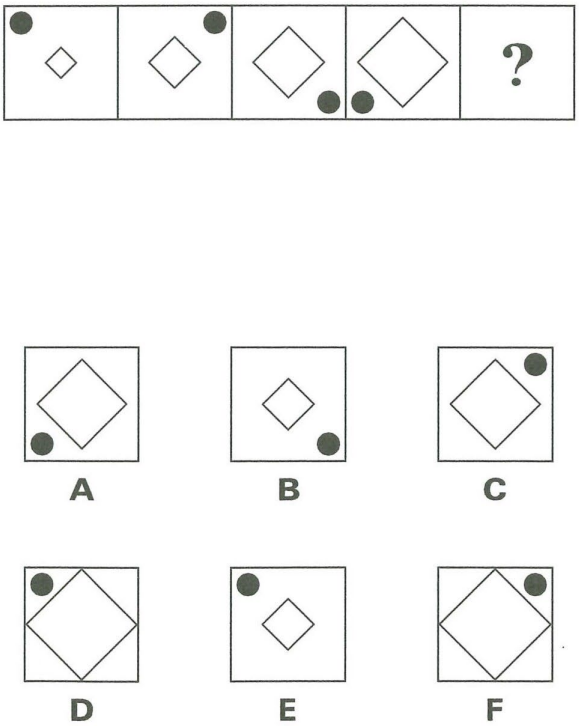
P1.



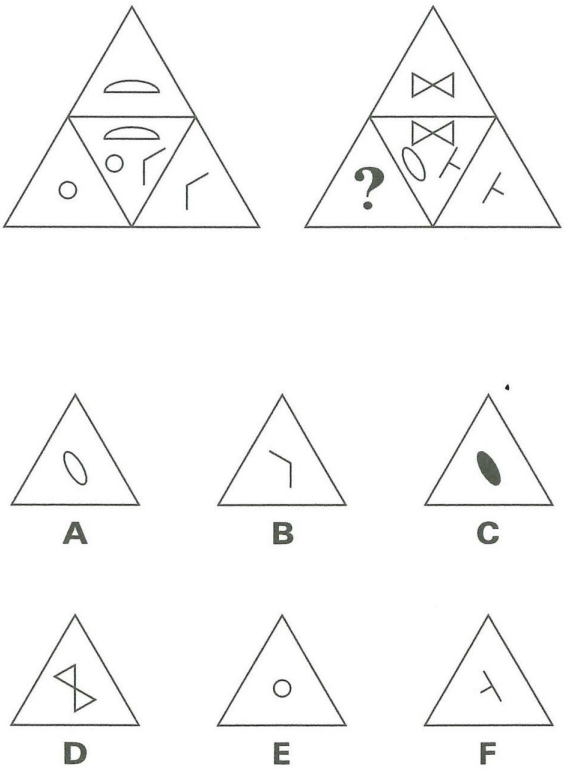
P2.



P3.



P4.



12+ Non-Verbal Reasoning Practice Answers

The answers are as follows:

Question P1 – the answer is **B**
In P1, both figures in the large oval consist of three of the same shape locked together.

Question P2 – the answer is **C**
In P2, the figures in the outer columns are copied in the centre column, without the crosses or small circles on them.

Question P3 – the answer is **D**
In P3, the black dot moves clockwise around the corners and the white diamond gets larger.

Question P4 – the answer is **A**
In P4, the three figures in the centre triangles are copied into the outside triangles that are nearest to them.

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