KAPLAN

TEST PREP AND ADMISSIONS

UKCAT Sample Questions

2009

ANSWERS AND EXPLANATIONS

- Verbal Reasoning
- Quantitative Reasoning
- Abstract Reasoning
- Decision Analysis

COMMENTARY

- Non-Cognitive Analysis

Verbal Reasoning – Scottish Devolution – Answers and Explanations

1. (A) True

This statement needs to be evaluated carefully. We're told in the first paragraph that Dumfries & Galloway was one of two local authority areas in which a majority of voters were not in favour of a Scottish Parliament having tax-varying powers. So the percentage of voters in favour of this question in Dumfries & Galloway must be 50 per cent or less. We're also told that a majority of voters 'in every Scottish local authority area' were in favour of having a Scottish Parliament. Dumfries & Galloway is one of these areas, so a majority of voters, or more than 50 per cent, were in favour of a Scottish Parliament. We don't know the exact number of voters in Dumfries & Galloway, but there must have been more in favour of a Scottish Parliament (at more than 50 per cent of voters) than were in favour of tax-varying powers for that parliament (a number of voters at or below 50 per cent). So the statement is True.

2. (B) False

This statement is also rather challenging, and requires you to read and think very carefully. The last sentence of the second paragraph tells us that the Scottish Parliament can 'set the basic rate of income tax, as high as 3 pence in the pound.' However, this statement says the Parliament 'can raise the existing basic rate of income tax by 3 pence in the pound.' Thus there must already be a basic rate of income tax, unspecified here, which is to be raised. Whatever the starting basic rate, raising it by 3 pence in the pound would result in a basic rate of income tax above 3 pence to the pound, which takes the rate beyond the level the Scottish Parliament may set it. So the statement is False.

3. (C) Can't tell

The passage tells us very little about the National Assembly for Wales; its existence is merely noted, in brackets, as one of the regional bodies to which certain powers have been 'devolved', or transferred, from the UK Parliament at Westminster. We are told in the next sentence that 'Health (including NHS issues in Scotland)' are among the issues devolved to the Scottish Parliament, but we cannot infer from the passage that similar issues in Wales are devolved to the Welsh National Assembly. We simply know nothing from the passage about this Assembly, other than that it has some powers devolved to it. So the answer is Can't tell.

4. (A) True

This statement requires you to do some maths, which shouldn't prove too difficult, so long as you don't misread the passage! We're told that Scotland is divided into 73 local constituencies, each with one local MSP, and also into 8 parliamentary regions, each with 7 regional MSPs. So there are 73 x 1 = 73 local MSPs, and 8 x 7 = 56 regional MSPs, for a total of 73 + 56 = 129 MSPs total in the Scottish Parliament. The statement is True.

Quantitative Reasoning – Year 11 Languages – Answers and Explanations

1. (C) 122

We can eliminate one answer straightaway: we seem to have enough data to calculate the total number of students in Year 11, so the answer can't be Can't tell. Eliminate **(E)**. The calculations, however, are not quite as straightforward as you might think, particularly if you did this question quickly, as it's not simply a matter of adding the number of students in the summary: 61 + 35 +47 = 143. But these numbers include students who take a single language, as well as students who study two languages. Looking at the three charts, we see that students who study French and German, French and Spanish, or German and Spanish are counted twice. You must subtract them from the total of 143, so 143 – 11 – 4 – 6 = 122, and the correct answer is therefore **(C)**.

2. (E) Japanese and Portuguese

For this question, we need to read our charts carefully and do some basic sums – again, nothing terribly challenging, but it's very easy to make an error in the rush of trying to get through the question. First, we need the number of students studying Spanish as their only language. The first chart shows this as 21. We can then quickly count the number of students studying the other languages:

Italian: 7 + 0 + 4 = 11
Japanese: 2 + 5 + 0 = 7
Mandarin: 3 + 4 + 2 = 9
Portuguese: 9 + 2 + 3 = 14

Of those figures, we can only equal 21 by adding 7 and 14, the numbers of students studying Japanese and Portuguese, so the correct answer is **(E)**.

3. (B) 11%

Questions about percentages are very common on the UKCAT, and the key is to read carefully and make sure you don't make an error in your maths, as the common errors will likely be listed as wrong answer choices. This question asks for the percentage of German students who also study Mandarin. We see from the initial summary that 35 students study German. From the chart of second languages of German students, we see that 4 of these students also study Mandarin. So our percentage is $\frac{4}{35}$, or 11%. The answer is **(B)**.

4. (C)

Occasionally the UKCAT will give you a question where the answers are new charts! These can be time-consuming. A good tip is to work backwards from the data in the answers, and see if you can eliminate any of them straightaway on this basis. In this instance, charts **(A)** and **(B)** include Italian as a second language. However, the question asks for a chart showing the second languages of students studying Italian. Thus, Italian can't be a second language choice, so we can eliminate **(A)** and **(B)**. We can then scan the remaining three charts for differences in the data. For instance, all three remaining charts list the number of Japanese students as 3, and Portuguese students as 7. So we cannot determine which is correct on the basis of these students. So let's try Spanish: we're told one student switches from Spanish and Italian to Italian only. There were 4 such students, so the number in our chart should be

3. That eliminates **(D)**. Originally there were 7 students studying French and Italian; we're told that 3 switch out of this group, and 1 new student joins during the autumn term. Thus the total number of French and Italian students in our chart should be 5, and the answer is **(C)**.

Abstract Reasoning – Answers and Explanations

1. (A)

This set is all about colours and sides. In Set A, the total number of sides on the white shapes in each item is equal to the total number of sides on the black shapes. In Set B, the total number of sides on the white shapes is twice the total number of sides on the black shapes. The size, arrangement or type of shapes is irrelevant. Our first test shape includes white shapes with a total of 8 sides, and black shapes with a total of 8 sides, so it fits into Set A.

2. (C)

This test shape includes a black hexagon and pentagon, with a total of 11 sides, and a white diamond and triangle, with a total of 7 sides. Thus it fits into neither set, and the answer is **(C)**.

3. (C)

Counting the sides here, we find a total of 8 sides on the black shapes and 4 sides on the white shape. This test shape fits into neither set, so again the answer is **(C)**.

4. (A)

This test shape contains two pentagons, one white, one black. As they have the same number of sides, the answer is **(A)**.

5. (B)

The final test shape in this set is the least like the rest of the lot, presenting two black triangles and four white triangles. The black shapes have a total of 6 sides, and the white shapes a total of 12 sides. Therefore this test shape fits into Set B.

Decision Analysis – Answers and Explanations

1. (D)

Literal Translation: down(castle), I, take, noble(opposite(man))

The basic approach with Decision Analysis is to write down the literal translation – taking care to group the elements of the code with commas or brackets, fitting the original. Then you can eliminate any answers that omit elements, or don't combine them correctly. Starting here with C12, or down(castle) – answers **(A)** and **(D)** keep these elements clearly together. Eliminate **(B)**, which omits the castle, and also **(C)**, which swaps 'down' for 'into' (which is a different letter in the code). Be very suspicious of **(E)**, which seems to separate 'down' and 'castle' (turning 'down' into 'downfall', a more elaborate concept than the code suggests). The three remaining answers contain 'I', but answer **(E)** drops out when we come to 'take', which is not included. The final element of the code could well become 'noblewoman', as in **(A)**, or 'countess', as in **(D)**. The elements of the code have been exhausted without accounting for the concept 'as her equal', which finishes **(A)**, so this cannot be correct. The correct answer is therefore **(D)**, which includes all the elements of the code, and nothing more.

2. (E)

Literal Translation: noble(brave, man), danger(move), sword, opposite(into(tree))

You don't need to take the code elements in order to eliminate answers. Here, the easiest might be the last element, which must mean something like 'out of the tree'. This matches answers **(A)**, **(D)** and **(E)**, and eliminates **(B)** and **(C)**. We might next consider the element 'danger', which is linked to 'move', which eliminates **(A)**, as this choice links 'danger' with 'sword'. The difference between **(D)** and **(E)** then is the difference between 'pulled' and 'risked pulling' – only the latter accounts for both 'danger' and 'move', so **(E)** is correct.

3. (C)

This question works in reverse, so we can go straight to the answers, and see what elements they have in common; we can then make our judgements and eliminate as appropriate. For instance, the answers all start with 'AF(7, 3)' or 'ADF(7, 3)' – which best matches the start of our message, 'Many armies of knights'? The correct answer for question 2 rendered 'F(7, 3)' as 'knight'. In the code, A means multiple, and D means group, which would account for the 'many armies'. Eliminate answers **(A)** and **(B)**, as they omit the 'group' code (and would thus mean something like 'many knights'). All remaining answers include 8, 'move', and G12, 'into the castle'. They also include 14, 'search', and H13, 'special goblet', which would fit 'Holy Grail' in the message. These elements and nothing more are found in answer **(C)**, which appears to be correct. Checking quickly, we can see that answer **(D)** groups the search and special goblet with code 9, 'take', which does not make sense with the message, and answer **(E)** adds in D4, or 'group of horses', also not in the message. This question also points up the value of using your correct responses from previous questions to help understand the patterns in the code, as these can recur again and again.

4. (B)

Literal Translation: opposite(brave, man), move, fight, (brave, man), search, opposite(fight)

This coded message includes a 'brave man' and his opposite, so eliminate answers that don't: answers **(C)**, **(D)** and **(E)** all render 'brave man' and the opposite as 'knight' and 'serf' (or 'not a knight'), but we've seen that the code requires F, noble, to indicate that a brave man is in fact a knight. So that leaves **(A)** and **(B)**. Comparing these, it's quickly clear that answer **(B)** accounts for all the elements in the code, and nothing more; answer **(A)** jumbles the order – moving the 'quest for peace' to the beginning, and attributing it to the 'fearful man'; answer **(A)** also adds the element 'sometimes'. The better fit, and correct answer, is **(B)**.

5. (C) and (E)

This question is different from the rest, on two counts: we have to add something to the code, and must find not one correct answer, but two. Once again, the quickest strategy is to eliminate the answers that are wrong. On this type of question, wrong answers most commonly fall into two categories: they are not part of the message, or they are already included in the code. All answers here are in the coded message – as 'disturb' means the same as 'alarm', in this context, and 'noise' is the same as 'sound'. So eliminate those which are covered by the code: 'peril' means the same as 'danger', so eliminate answer **(A)**. A group of trees, or D6, would be a woodland, so eliminate **(B)**. And 'vulgar' also means 'common', which is the opposite of noble, or BF in the code. Eliminate **(D)**, which leaves the correct answers as **(C)** and **(E)**, as the code cannot cover the elements 'disturb' or 'noise'.

Non-Cognitive Analysis– Commentary

Non-Cognitive questions do not have right or wrong answers, so Kaplan does not provide traditional answers and explanations for these questions. Instead, some brief commentary:

- Non-Cognitive questions usually include answers with a range of options.
- This range always includes an even number of answer choices – there's never a 'middle' choice.
- Ethical dilemmas usually present two flawed options, between which you must choose. Normally either choice will have a negative impact on your ethics or empathy. For instance, in this dilemma, Luke can lie as asked, and thus protect his friend, or he can tell the truth, which will get his friend into a whole lot of trouble.
- It's best to answer honestly and not over-think your responses. The UKCAT Consortium are interested in seeing what you would do, rather than what you consider the 'right' response.