Overview of CAT 4 exam

The **Verbal Reasoning Battery** comprises two short tests: Verbal Classification and Verbal Analogies.

The **Quantitative Reasoning Battery** comprises two short tests: Numbers Analogies and Number Series.

The **Non-verbal Reasoning Battery** comprises two short tests: Figure Classification and Figure Matrices.

The **Spatial Ability Battery** comprises two short tests: Figure Analysis and Figure Recognition.

CAT4 Question Types

Here is some detailing about the type of questions covered in CAT4. The questions in the test are multiple-choice questions:

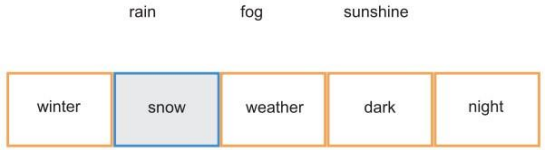
- **Verbal Classification:** These questions measure students' ability recognizing a relation amongst words. They show a group of words with a certain connection and ask the student to choose a word from the answer choices that fit the group's connection.
- **Verbal Analogies:** Questions of this sort present a couple of words with a relation between them and an additional word. The student is asked to find a word from the answer choices that could go with the presented word while holding the same relation that the presented couple of words share. Verbal analogy questions require finding a connection between two words and applying that relation to another pair of words.

Verbal Reasoning Battery – thinking with words

Verbal Classification

Three words are presented which are similar in some way or ways. From a selection of five possible answers, the student must identify a fourth word with similar properties.

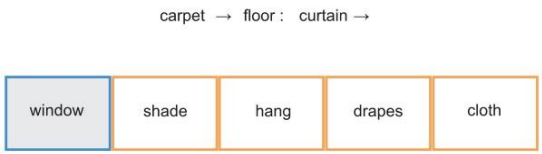
The answer is snow because rain, fog and sunshine are all types of weather and snow is also a type of weather.



Verbal Analogies

A pair of connected words is presented alongside a single word. From a selection of five possible answers, the student must select a word to complete the second pair in the same way.

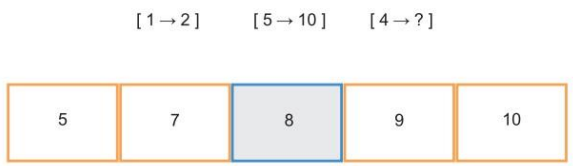
The answer is window, because a carpet goes on a floor and a curtain hangs at a window.



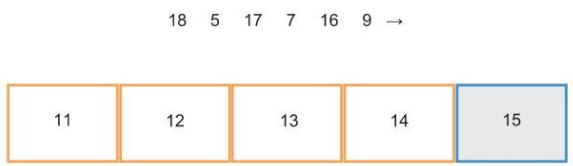
- **Number Analogies:** Similar to Verbal Analogies, the student gets a pair of numbers, linked in some way, and a single number of another pairing. The idea here is spotting a rule in the relationship between the numbers in the pair and use a find a word from the answer choices that would share the same relationship with the single number given. The students are required to use arithmetic skills and figure out the connection between a pair of numbers.
- **Number Series:** These questions require from the students to figure out a mathematical connection shared between a series of numbers and choose from the answer choices a number that could appear in the end of the series and match that connection.

Quantitative (or Numerical) Reasoning Battery – thinking with numbers

Number Analogies

Two pairs of related numbers are presented. From a selection of five possible answers, the student must select a number to complete a third pair. The answer is 8. Here 1 add 1 makes 2, but that doesn't work for the second pair because 5 add 1 is 6, not 10. Instead, you have to multiply by 2 to get the second part of each pair, so 4 times 2 is 8.	

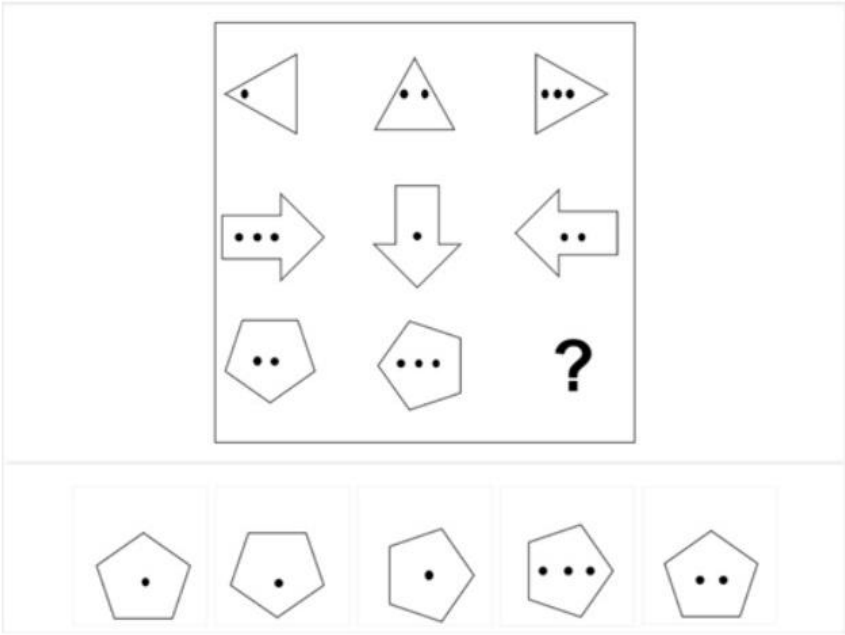
Number Series

A sequence of numbers created by a transformation rule is presented. From a selection of five possible answers, the student must identify the rule and continue the sequence. The answer is 15. There are two number patterns in this series. The first, third and fifth numbers go down by 1 at a time – 18, 17 then 16. The numbers in between them go up by two at a time – 5, 7 then 9. This means the next number must be 16 minus 1, giving 15.	

- **Figure Classification:** These kinds of questions use shapes, rather than words or numbers, to see how students work with a different kind of reasoning. Students are asked to choose a shape from the answer choices that will share a connection with three more given shapes.
- **Figure Matrices:** Very much like analogies, these questions involve pattern recognition. These questions present a matrix with four cells. Each cell contains a figure comprised of shapes. The two cells on the top row have a certain relation that the student needs to work out. The cells on the bottom row must have the same relation, but the left cell is empty. The student must choose from the answer choices the answer that could fill that empty cell and still share the relation needed.

Non-Verbal Reasoning Battery

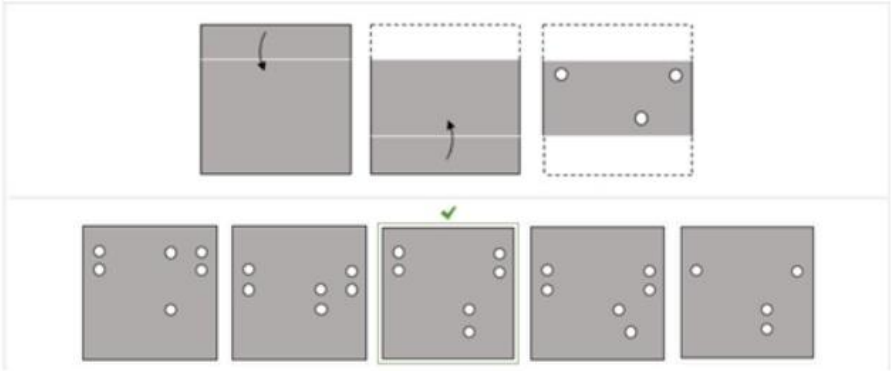
[3] The following question is a Figure Matrices question. The rows and columns follow a certain rule. The student must choose the correct shape from the answer choices which follows the same rule.



- **Figure Analysis:** Figure Analysis questions are meant to measure how students handle "thinking with shapes". The students must demonstrate skills of keeping an image in mind and manipulating it as the questions demands. These questions show a paper being folded in a certain way and then punched with holes. The students must choose from the answer choices the final product of the paper folding.
- **Figure Recognition:** The students are given a shape and five answer choices. They must choose in which answer choice the shape can be found. These questions involve understanding of shapes' characteristics; Students must keep a shape in mind and use its angles and lengths in a precise way to solve them.

Spatial Ability Reasoning Battery

[4] Look at the top row. See how the paper is folded and changed. Choose the picture that shows how the paper looks when it is opened.



Free CAT4 Level E Sample Test

Verbal Reasoning Battery

[1] The following question is a Verbal Classification question. The three words in the top row below share a connection.
You must choose the answer choice which shares the same connection. There is only one correct answer.

read	calculate	swim

see	bike	abilities	feel	dream

[1] The correct answer is bike.

Read, calculate, and swim are all **learned abilities**, and bike is also an ability that needs to be learned in order for one to have it.
'See' is incorrect as people do not need to learn how to see, for it is an innate ability.
'Abilities' is incorrect as this is the name of the general category to which read, calculate, and swim belong.
'Feel' is incorrect as people do not need to learn how to feel, for this is an innate ability.
'Dream' is incorrect as we cannot learn how to dream, for people dream in their sleep involuntarily.

Quantitative Reasoning Battery

[2] The questions below is a Number Series question. It presents a series of numbers with a certain rule. You must choose from the answer choices a number that can replace the question mark and follow the same rule, completing the series.

What number comes next in the series?

7 1 6 2 5 3 ?

5	4	3	2	1

[2] The correct answer is 4.

In this series, the pattern is as follows: first 6 is subtracted, then 5 is added, then 4 is subtracted, then 3 is added, and so on.

The pattern is: -6,+5,-4,+3,...

The last two numbers in this series are 5 and 3, 3 is smaller than 5 by 2, so the next number in the series should be bigger than 3 by 1.

3+1=4.

Alternatively, we can look at the pattern as the combination of two separate patterns that alternate. One pattern (the odd terms) is a series of numbers that decrease by 1, and the other pattern (the even terms) is a series that increases by 1.

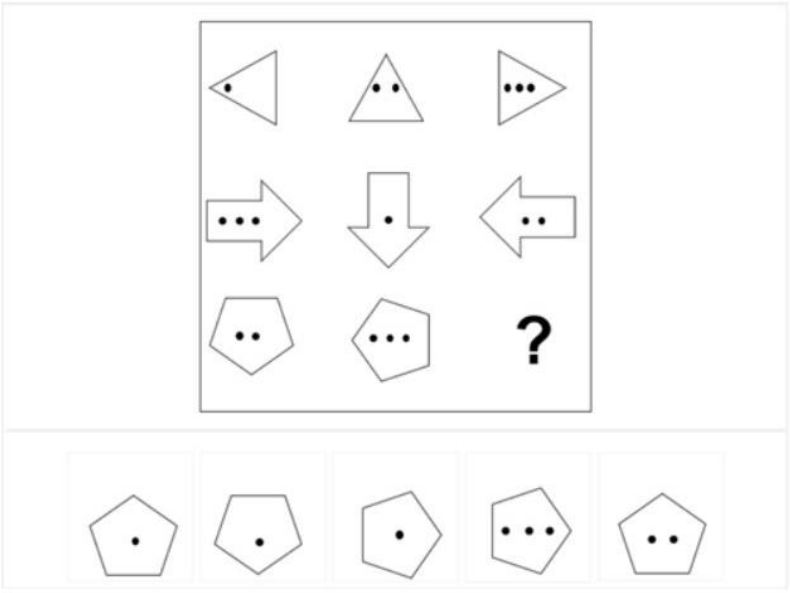
The pattern is: 7 1 6 2 5 3.

We are missing the seventh number which is an odd term, therefore it should be smaller than the last odd term (the fifth number) by 1. The fifth number is 5, so: 5-1=4.

Therefore, 4 is the correct answer.

Non-Verbal Reasoning Battery

[3] The following question is a Figure Matrices question. The rows and columns follow a certain rule. The student must choose the correct shape from the answer choices which follows the same rule.



[3] The correct answer is (A).

Identify the image that completes the pattern by examining how the series of shapes change across the rows and down the columns within the matrix. The direction in which you examine the shapes depends on where you can most easily visualize the relationship between the shapes.

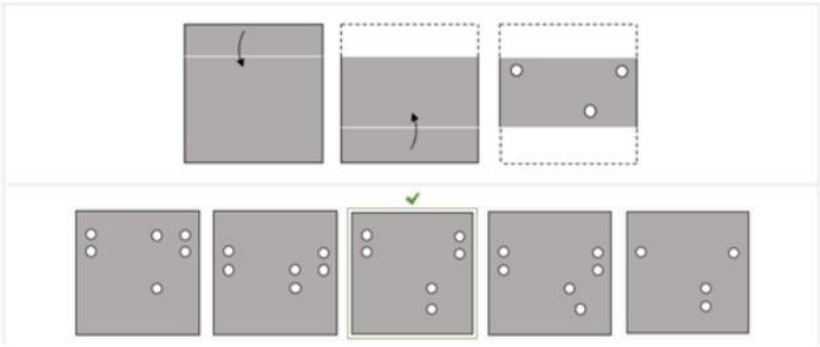
The outer shape in each row remains the same, however it rotates 90-degrees clockwise. Therefore, the shape that will appear in the missing box will be a pentagon, and it will be pointing upwards (in order to match the rotation pattern). In addition, in each row and column, the shapes are filled with a different number of black dots. The top two rows have shapes with one, two and three dots. As the third row includes only shapes with two and three dots, the missing box must have a shape with one dot.
The only answer that follows those conditions is answer (A).

Answers (B) and (C) contain the correct shape with the correct number of dots on the inside (one). However, the pentagons they contain are not a 90-degree clockwise rotation of the box to the left, and therefore they are incorrect.

Answers (D) and (E) have three and two dots inside, respectively. Since the column and row already contain shapes with three and two dots, these answer choices are incorrect and can also be ruled out.

Spatial Ability Reasoning Battery

[4] Look at the top row. See how the paper is folded and changed. Choose the picture that shows how the paper looks when it is opened.



[4]The correct answer is (C).

The top and bottom edges of the papers are folded inward, then three holes are punched in.

As folding of the paper creates a symmetry line, punching-in holes in a folded paper makes a mirror image along that same symmetry line (after unfolding). This question has two symmetry lines and, as they are horizontal, the holes also would be mirrored horizontally. The top two holes would have a pair of two holes above them, as the appropriate symmetry line is above them:

The lower hole has a symmetry line underneath it, and therefore it would have a mirrored hole below it:

The only answer which follows this rule is answer (C), which is the correct answer.

Answer (A) and (B) are incorrect, as there are a holes above the bottom hole, instead of below it.

Answer (D) is incorrect, as the hole in the bottom is diagonal, rather than directly below the original hole.

Answer (E) is incorrect as its missing two holes in its top part.