General Reasoning Test

STANDARD REPORT

General Reasoning Overview

The General Reasoning Test (GRT2) assesses the ability to reason using words, numbers and abstract concepts. It has been specifically designed to discriminate between candidates of average ability, whose aptitude is being assessed for general level employment and training. Tests such as the GRT2 have consistently been found to be the best single predictor of both performance and trainability in roles that require a good level of general mental ability. Combining reasoning test scores with the results from personality tests can further improve the prediction of job performance, as can the use of job sample tests and structured interviews. In roles where experience and acquired knowledge are central to effective performance, it may be particularly appropriate to combine information obtained from reasoning tests with that obtained from these latter sources.

The GRT2 assess the candidate's capacity (a composite of speed and accuracy) to perceive logical patterns and relationships in new material she has not previously encountered, and deduce the logical consequences of these (i.e. logical deductive reasoning). This incorporates the ability to: learn and understand complex new material; use logic to develop arguments that are rational and well-reasoned; deduce the logical consequences of a given set of rules, assumptions or relationships.

The GRT2 assesses serial deductive reasoning, rather than holistic deductive reasoning; namely the ability to understand the logical relationships that govern patterns that change along one dimension, rather than the ability to understand logical patterns that develop simultaneously over a number of independent dimensions. As such, the abilities the GRT2 assesses (verbal, numerical and abstract serial deductive reasoning) are most directly relevant to roles that require the candidate to make a series of rational decisions that follow sequentially, one after another. While being relevant to all jobs that require a good level of mental acuity, the abilities the GRT2 assesses are slightly less directly relevant to roles that require the candidate to accurately perceive and understand logical patterns holistically (i.e. to understand patterns that change simultaneously over a number of different dimensions), and to think strategically.

The additional diagnostic (raw) scores, which are provided after the profile chart for each of the Verbal, Numerical and Abstract Tests, enable assessors to establish the respondent's test taking style. These provide additional information which allows assessors to determine the trade-off the candidate has made between speed (Percentage Items Attempted) and accuracy when responding to the GRT2 items. Assessors should be mindful of the need to interpret these raw scores in the context of the candidate's scaled (stanine or percentile) score on each subtest, as **both** accuracy and speed will increase for higher scorers.
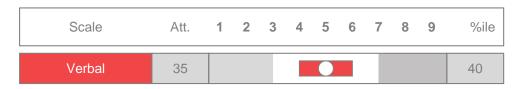
Verbal Reasoning

The Verbal Reasoning Test assesses a person's ability to use words in a logical way. Consisting of items which involve an understanding of vocabulary, class membership and the relationships between words, this test measures the ability to perceive and understand concepts and ideas expressed verbally. While this test is a measure of reasoning ability rather than educational achievement, it is nonetheless generally recognised that verbal reasoning test scores are sensitive to educational factors.

Sam Sample's performance on the Verbal Reasoning Test indicates that she has an 'average' level of verbal reasoning ability compared to the chosen reference group. This suggests that she is likely to be as able as most staff in general level employment to understand fairly complex verbal concepts and ideas, to be able to perceive the relationships between these and deduce their logical consequences. She has demonstrated an average level of ability (with respect to the chosen reference group) to be able to use words in a logical and rational way, suggesting that she has a reasonable command of language. It might however be expected to take her a little longer than it may take the highest calibre staff to fully appreciate particularly difficult concepts and very subtle shades of meaning.

While Sam Sample should be able to formulate arguments in a fairly logical manner, she may have a little difficulty understanding the finer points of complex arguments. She should be as able as most (general level) staff to understand new ideas, and explain them coherently to others, but she may not always fully appreciate the underlying logic; particularly if it very complicated. She should be able to learn routine material without undue difficulty, although it is likely to take her a little longer to understand particularly complex material or very subtle arguments. She should be quite able to benefit from routine training and development programmes that require a reasonable level of verbal ability, and which require participants to learn relatively complex new (verbal) material.

Scale	Att.	1	2	3	4	5	6	7	8	9	%ile
Verbal	35					●					40

Norm Used:
Verbal = 4494 General Population

Additional Diagnostic Scores:

Scale	Percentage* Items Correct	Percentage* Items Attempted	Percentage* Accuracy
Verbal	60%	100%	60%

* Raw (unscaled) percentages

Percentage Items Correct = Number of Correct Responses / Total Number of Items
Percentage Items Attempted = Number of Items Attempted / Total Number of Items
Percentage Accuracy = Number of Correct Responses / Number of Items Attempted
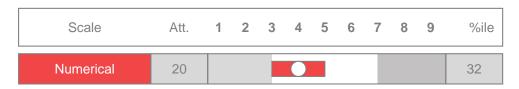
Numerical Reasoning

The Numerical Reasoning Test assesses a person's ability to use numbers in a logical and rational way. The test consists of items which assess the candidate's understanding of number series, numerical transformations, the relationships between numbers and their ability to perform numerical computations.

Sam Sample's performance on the Numerical Reasoning Test indicates that she has a 'slightly below average' level of numerical reasoning ability when compared to the chosen reference group. This suggests that she is likely to experience somewhat more difficulty than many people in general level employment in perceiving the logical patterns and relations between numbers, in understanding the rules that govern these patterns and in deducing the consequences of them. An ability to work with numbers is therefore unlikely to be one of her particular strengths. She would be expected to experience some difficulty fully understanding complex numerical/mathematical concepts.

While Sam Sample should be able to carry out routine numerical operations with a fair degree of accuracy, she would be expected to have difficulty fully understanding the logic that underpins the more complicated numerical problems. However, once she has become familiar with routine numerical work she should be able to cope with this without undue difficulty. She should have sufficient numerical ability to be able to benefit from further training and development, if this is skills based and well structured. However, she might not be expected to gain great benefit from training programmes that focus on teaching fundamental mathematical/numerical concepts and principals.

Scale	Att.	1	2	3	4	5	6	7	8	9	%ile
Numerical	20				●						32

Norm Used:

Numerical = 4494 General Population

Additional Diagnostic Scores:

Scale	Percentage* Items Correct	Percentage* Items Attempted	Percentage* Accuracy
Numerical	52%	80%	65%

* Raw (unscaled) percentages

Percentage Items Correct = Number of Correct Responses / Total Number of Items
Percentage Items Attempted = Number of Items Attempted / Total Number of Items
Percentage Accuracy = Number of Correct Responses / Number of Items Attempted
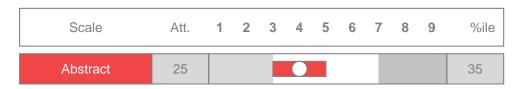
Abstract Reasoning

The Abstract Reasoning Test assesses the ability to understand complex concepts and assimilate new information outside of previous experience. The test consists of items which require the recognition of patterns and similarities between shapes and figures. As a measure of reasoning it is independent of educational attainment and can be used to provide an indication of intellectual potential. Assessing the ability to quickly understand and assimilate new information it is likely to predict how responsive to training the person will be.

Sam Sample's score on the Abstract Reasoning Test indicates that, with respect to the chosen reference group, she has a 'slightly below average' level of fluid or 'natural' (i.e. untutored) reasoning ability. This suggests that she is likely to have slightly less ability than most (general level) staff to be able to correctly identify logical patterns and relationships between novel material she has never encountered before. Moreover, while she should be able to use pure logic (i.e. without calling upon other knowledge/information such as her vocabulary, knowledge of mathematical operations, etc.) to deduce the consequences of such patterns, she would be expected to experience some difficulty correctly deducing the logical consequences of the more complex patterns and relationships.

While Sam Sample should be able to learn routine material without undue difficulty, it may take her somewhat longer to do so than it would take many other staff. She would be expected to be able to benefit from further training and development, if it is well structured and skills based but may experience some difficulty if she is required to learn abstract concepts or understand more complex logic.

Scale	Att.	1	2	3	4	5	6	7	8	9	%ile
Abstract	25				●						35

Norm Used:
Abstract = 4494 General Population

Additional Diagnostic Scores:

Scale	Percentage* Items Correct	Percentage* Items Attempted	Percentage* Accuracy
Abstract	60%	100%	60%

* Raw (unscaled) percentages

Percentage Items Correct = Number of Correct Responses / Total Number of Items
Percentage Items Attempted = Number of Items Attempted / Total Number of Items
Percentage Accuracy = Number of Correct Responses / Number of Items Attempted

Classic Profile

Scale	Att.	1	2	3	4	5	6	7	8	9	%ile
Verbal	35					⬤					40
Numerical	20				⬤						32
Abstract	25				⬤						35

Norms Used:

Verbal = 4494 General Population
Numerical = 4494 General Population
Abstract = 4494 General Population

General Mental Ability

General Mental Ability – often termed 'g' – is defined as a person's capacity to: understand logic; comprehend and learn complex new material; think abstractly; solve problems; plan and respond to the environment in an adaptive, rational and flexible manner. It is termed General Mental Ability because it assesses the person's mental capacity across a wide range of different intellectual functions and modalities (i.e. it is not specific to that person's verbal, abstract or numerical reasoning ability, etc.). It is a composite of the speed and accuracy with which the person performs mental tasks, and can therefore be viewed as a measure of a person's 'mental power'.

Crystallised Intelligence – often termed 'Gc' – is defined as a person's capacity to accumulate knowledge and intellectual skills, and learn from experience. It involves acquiring new ideas, information and mental skills, and using these to understand the environment and respond to it in a logical and rational way. It is a function of the speed and accuracy with which the person can perform such mental tasks and use acquired knowledge and competencies in an adaptive manner.

Fluid Intelligence – often termed 'Gf' – is defined as a person's capacity to create meaning out of confusion. It involves the ability to: solve novel problems in a rational way, perceive patterns and relationships in new material and deduce the logical consequences of such patterns. It is a function of the speed and accuracy with which the person performs such mental tasks, with this ability being used whenever a person is required to respond to a novel intellectual task or problem.

Scale	Score	1	2	3	4	5	6	7	8	9
General Mental Ability	4.3				⬤					
Crystallised Intelligence	4.6					⬤				
Fluid Intelligence	4				⬤					