



# NDIT™ Numerical Data Interpretation Test

## FAQs



MORE INSIGHT  
MORE IMPACT™

# NDIT™ Numerical Data Interpretation Test

## Frequently Asked Questions

### About NDIT

#### What does the Numerical Data Interpretation Test measure?

NDIT™ assesses numerical reasoning ability related to the interpretation and manipulation of the types of numerical data routinely encountered in the workplace. Specifically, NDIT measures the ability to

- correctly analyse and interpret numerical information presented in surveys, reports, charts, graphs, and dashboards;
- draw logical conclusions and correct inferences from numerical data;
- calculate values using basic arithmetic operators;
- work with percentages; and
- identify when additional data is required to draw conclusions.

#### What are the unique features of the Numerical Data Interpretation Test?

- NDIT is an item-banked test with over 100 items, so candidates rarely receive the same test. This allows for unproctored testing and improved test security.
- NDIT features both multiple choice and free response items. Free response items make guessing the correct answer highly unlikely, which improves the accuracy of the assessment.
- NDIT items are highly relevant to the real numerical problems encountered at work, which improves applicants' testing experience and fairness impressions.

#### What norms are available for NDIT?

- Professionals/Individual Contributors
- Working Adults in the U.K.
- Working Adults in the US
- Working Adults in India
- Financial Roles (Global)
- A custom norm group for your organisation can be developed by TalentLens Research Services. Contact us for details.

#### For what jobs is NDIT appropriate?

Numerical reasoning is an important skill for many work settings including executive, managerial, supervisory, professional, sales, administrative, and technical roles across most industry sectors. A job analysis will identify what job duties require numerical reasoning. NDIT is appropriate for jobs where data interpretation is used frequently or on critical job tasks.

#### How do item-banked tests differ from fixed test forms?

The content for item-banked tests undergoes the same rigorous development and review process as items for a fixed test form. While a fixed test form only has a set number of items equal to the total test length (21 items), the item-banked version has over 100 unique items. Item-banked tests also have more sophisticated item delivery rules to ensure consistency among test administrations such as total word count, variation in the item stimulus (e.g., bar graphs, data tables), and data technique (e.g., costs, revenue, percentages, and ratios). Both item-banked tests and fixed tests ultimately express candidate scores as a percentile rank.

## NDIT™ and other TalentLens Solutions

### How is a numerical reasoning test different than a maths test?

Mathematical ability reflects the ability to learn, retain, and apply mathematical formulas which are computational skills. Numerical reasoning uses analytical skills which require the ability to deduce, interpret, and evaluate numerical data. It is possible for an individual to obtain different score levels in a math test versus an assessment of numerical reasoning ability. In fact, the NDIT and DAT: Numerical Calculation Test (Pearson, in press) had a moderate correlation of .55 in a sample of 104 working adults.

### How does NDIT compare with other numerical tests by TalentLens?

**Differential Aptitude Test: Numerical Ability (DAT;** Pearson, 2008) measures understanding of numerical relationships and facility in handling numerical operations. The test focuses on computation rather than reasoning. Numerical ability scores are used to predict success in positions that require the ability

to accurately compute and calculate numbers. DAT Numerical Ability is a *maths* test intended for entry-level positions and NDIT is a numerical reasoning test suited for graduate to higher level positions in which numerical data interpretation is important.

**DAT: Numerical Sequence** (Pearson, in press) measures pattern recognition in numbers using computer adaptive testing. The Numerical Sequence test will be available for purchase in the U.S. in 2017. NDIT and Numerical Sequence are moderately correlated ( $r=.39$ ,  $n=104$  working adults).

**Rust Advanced Numerical Reasoning Assessment (RANRA;** Rust, 2007) measures numerical reasoning by assessing the ability to compare quantities and recognise the sufficiency of numerical information to make decisions. RANRA has been described as a test of ‘critical thinking ability with numbers’. RANRA has a high correlation with the Watson-Glaser Critical Thinking Appraisal® (.68) while NDIT has a moderate correlation with critical thinking (.47). NDIT expands on RANRA and offers more work-relevant items in an item-banked format allowing for unproctored testing. The two numerical reasoning tests show a high correlation ( $r=.64$ )

Current Stock Levels			Price List		
Item	Current Stock Level	Weekly Requirement	Item	Pack Size	Price per pack
Abistese	1200	155	Abistese	24	\$52.65
Defender	140	46	Bepastil	12	\$180
Exfact	360	29	Covenda	144	\$1080
Bepastil	134	26	Defender	144	\$2520
Covenda	27	4	Exfact	1	\$11.25

Multiple choice: For which item will the current stock run out within a month?

a) Abistese  
b) Bepastil  
c) Covenda  
d) Defender  
e) Exfact  
f) Not possible to tell

Free response: How much does a single unit of Bepastil cost? \_\_\_\_\_

Figure 1. NDIT multiple choice and free response sample items

What number should replace the R in this correct addition example?

$$\begin{array}{r} 7R \\ + R \\ \hline 88 \end{array}$$

a) 9  
b) 6  
c) 4  
d) 3  
e) None of these

Figure 2. Numerical Calculation/Ability sample item

Figure 3. Numerical Sequence sample item

Figure 3. Numerical Sequence sample item

### Figure 4. RANRA Comparison of Quantities and Sufficiency of Information sample items

A  
The price of 2 pounds of sugar at 46 cents per pound.

B  
The price of 3 pounds of sugar at 31 cents per pound.

o The quantity under A is greater than the quantity under B.  
o The quantity under B is greater than the quantity under A.  
o The quantities under A and B are equal.  
o The information given is insufficient to make the comparison.

Sean is worth his weight in gold. How heavy is he?

Sean is lighter than any of his brothers or sisters.  
One of Sean's sisters weighs 82 pounds.

o Statement 1 ALONE is sufficient, but statement 2 alone is not sufficient to answer the question.  
o Statement 2 ALONE is sufficient, but statement 1 alone is not sufficient to answer the question.  
o BOTH statements 1 and 2 TOGETHER are sufficient to answer the question, but NEITHER statement ALONE is sufficient.  
o EACH statement ALONE is sufficient to answer the question asked.  
o Statements 1 and 2 together are NOT sufficient to answer the question asked.

# NDIT Scoring and Reporting

## How are candidate scores reported for NDIT?

Scores are presented on the candidate’s profile report in the form of a percentile rank and other commonly used standardised scores. The candidate score is displayed as a midpoint percentile rank where the average score is at the 50th percentile. Figure 5 shows a candidate who scored at or above 65% of the individuals in the normative group on the NDIT.

Candidate raw score, ability score, and percentile rank are available in the administrator’s status/score report dashboard. Administrators may show or hide scores according to their preference by selecting the link under the search field as shown in Figure 6.

## What scores are available on candidate profile reports?

Number Correct, T-score, STANINE score, and STEN score are all reported in the Additional Technical Information section of the candidate’s profile report as shown in Figure 7. Item-banked tests produce a theta score (ability score) that takes into account the difficulty level of each item, therefore number of correct responses (raw score) should not be used to make hiring decisions. Rather, use the percentile rank or a standardised score because these scores take into account the item-difficulty differences of the administrations. As shown in Figure 6, Candidate B and Candidate C both achieved a raw score of 16, but had different percentile ranks.

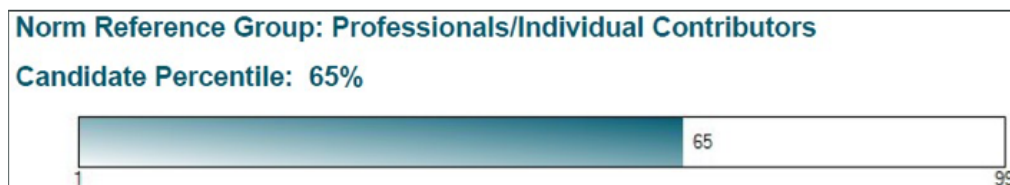


Figure 5. Percentile rank as shown in the NDIT Profile Report

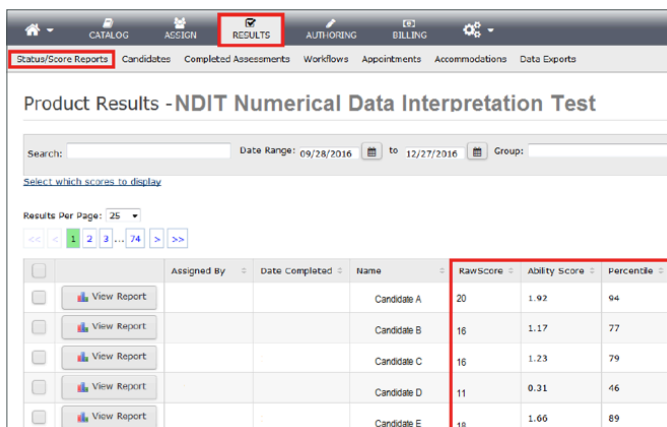


Figure 6. Sample Administrator's Status/Score Report Dashboard

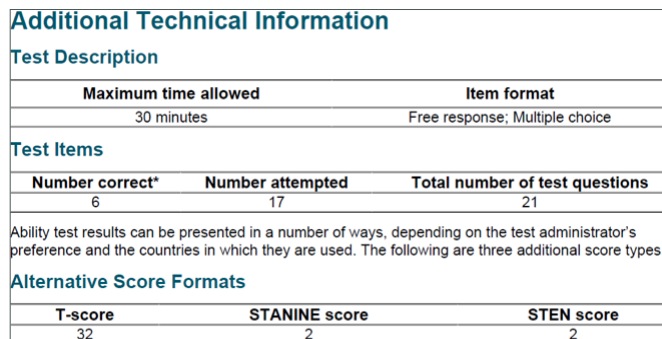


Figure 7. Example of Candidate Scoring Information From the NDIT™ Profile Report

## NDIT Administration

### **What is the purpose of the different scores on the profile report?**

Standardised scores (T-scores, STANINE, and STEN scores) are useful for comparing scores from a new test version to the previous version. Standardised scores also can be combined, such as NDIT results with other TalentLens' ability test results, to obtain a more complete profile. From a practical perspective, standardised scores meet multinational companies' requirements, which vary according to local law and preference. However, all TalentLens profile reports also include a candidate percentile rank score. You can continue to use this score to make comparisons in the process of making hiring decisions.

### **What is the difference between NDIT and the ATHENA Numerical Reasoning Test?**

NDIT™ is the new global product name for ATHENA (UK only). There is no difference in test content between ATHENA and NDIT. ATHENA inventory may still be used and results from both tests are equivalent.

### **What are the differences among all of the English language versions?**

NDIT is currently available in UK English and US English with minor adaptations to the candidate demographics and the profile report for the Indian English and Australian English versions. The primary differences in the global assessment content are in the usage of dollars or pounds on currency based items, kilometers or miles on distance based questions, and other localisation of words like truck (U.S. English) or lorry (UK English). To appropriately benchmark your job candidates with a comparable norm group, use the language version developed for your geographic region.