

## INTRODUCTION

You have been asked to take one or more of the Profiling for Success: Reasoning Tests. This leaflet:

- ◆ tells you more about the tests
- ◆ gives you a chance to have a go at some questions
- ◆ gives you some tips on taking the actual tests.

Employers and careers services, amongst others, are increasingly aware of the value of psychometric tests. 'Psychometric' means the tests have been carefully developed to measure abilities, aptitudes, skills, interests or aspects of personality. The ones you will most commonly encounter are 'ability'/'aptitude' tests or 'personality' measures.

## THE ADVANTAGES OF PSYCHOMETRIC TESTS

### **Psychometric tests are an additional opportunity to demonstrate your skills**

In a careers or job interview, it is impossible to give the full picture of your skills and personality. A person's c.v. and qualifications may say very little about them if their strengths lie in areas which are not covered by conventional qualifications. Certain skills are, in fact, better measured using carefully constructed psychometric tests (e.g. problem-solving, spatial ability).

### **Psychometric tests provide a fairer assessment of your skills**

Psychometric tests provide an objective way of assessing your strengths and weaknesses. They are developed by trained psychologists using rigorous methods to ensure that the tests are unbiased and do not contain material which could favour certain candidates. The tests are 'standardised', meaning they have been tested on people of a similar age and background and performance is interpreted relative to that standard.

Psychometric tests are also objective in terms of scoring. Most tests use multiple-choice questions with set right and wrong answers, so there is no room for bias in marking.

### **Psychometric tests can help you understand more about your abilities**

Psychometric tests are useful to employers because, having identified which skills or 'competencies' are necessary to perform well in a given job, psychologists can provide tests which are tailor-made to assess those skills.

Finding a 'best-match' between person and job is a two-way process, however; a psychometric test may suggest that you are unsuitable for a certain job, but if the job does not use your skills and interests, you are unlikely to find it satisfying. It follows that in the case of personality tests, it is in your interest to be honest! It is worth remembering to ask for feedback from any psychometric test.

### **The answer is in the question!**

Most ability tests ask multiple-choice questions, where you have to choose one correct answer from several answer options. The answer options include 'distractors' - incorrect responses such as errors which are easily made or responses which resemble the correct answer in some way. There are many ideas about how to spot the correct answer from the distractors (such as spotting patterns in answers or selecting from 'middle' answers) but it is best to ignore this kind of strategy. Psychometric tests are increasingly sophisticated and are designed to ensure that you cannot perform well by the 'multiple-guess' approach. Guidance on how to approach a test can be found in the section titled 'The test itself'.

There are no right or wrong answers to **personality questionnaires**. These are untimed and you are usually asked not to spend too much time thinking about each question but to give a quick and honest response. Do not try to second-guess the responses you think should be given – some personality questionnaires can detect deliberate distortion of answers and you could be asked to expand upon your responses in an interview.

## WHAT DOES A PSYCHOMETRIC TEST LOOK LIKE?

Personality questionnaires and ability tests are either paper-and-pencil based or may be taken on computer.

Paper-and-pencil tests often come as a booklet with a separate answer sheet. The answer sheet usually has printed boxes and you indicate your answer to each question or statement by marking the relevant box. You are instructed what to do by a person administering the test. Computerised tests come in different formats. You are given instructions either by an administrator or on the computer screen itself. In some cases, tests are completely computer-administered and you familiarise yourself with the instructions at your own pace and choose when to start the timed test. You usually indicate your answers by clicking on an answer option using the mouse.

## WHAT WILL I BE ASKED TO DO?

Ability tests typically measure three areas of skill:

- ◆ **Verbal skills** – reading and understanding or deducing information.
- ◆ **Numerical skills** – solving mathematical problems.
- ◆ **Abstract or Non-verbal skills** – solving visual puzzles or problems by reasoning e.g. identifying the next shape in a sequence of shapes.

Examples of each of these types of test are given below, to give you an idea of the types of questions you may encounter. Read the instructions for each type of test and then have a go at answering the questions that follow. The answers to the questions are given on the last page.

### Verbal Reasoning

#### Instructions

The Verbal Reasoning test looks at your ability to think logically about written information. You will see passages of text, followed by statements relating to the text. You have to read each passage of text carefully and then decide whether each statement follows logically from the information in the passage. For each statement there are three answer options you can choose from: True, False or Can't tell.

- True                      This means that, on the basis of the information in the passage, the statement is true or logically follows from the passage.
- False                      This means that, on the basis of the information in the passage, the statement is false.
- Can't tell                This means that you cannot tell from the information in the passage whether the statement is true or false.

When deciding on whether a statement is true, false or you can't tell, it is important to base your answer only on the information in the passage and not on any other knowledge you may have. Your task is simply to judge whether or not the statement follows logically from the passage.

Have a look at the practice question below. The answer to the first statement is given. Try and work out the answers to the other three statements, and then check your answers against the explanations on the back page.

The word 'weather' is used to describe the day-to-day changes in our atmosphere. The source of these changes is the sun. As the Earth spins at an angle to the sun, areas around the equator get more heat from the sun than other areas. Land also absorbs more heat than the sea.

The atmosphere tries to equalise these differences in temperature, moving hot air that is near the equator to colder areas near the North and South Pole, and cool air to warmer areas. This movement of air is also affected by the spinning of the Earth and friction between the air and land. This process creates areas of high and low pressure in the atmosphere that result in the weather we experience on the ground.

1. Warm air tends to move towards the equator.

***The answer to this question is False. The passage tells us that the atmosphere moves 'hot air that is near the equator to colder areas near the North and South Pole' and 'cool air to warmer areas'. Warmer air therefore moves away from the equator, not towards it.***

2. The sea cools down more quickly than land.
3. The sun causes changes in the weather.
4. Areas of high pressure are more common around the equator.

## Numerical Reasoning

### Instructions

The Numerical Reasoning test looks at your ability to solve numerical problems. You will see some numerical information followed by questions that relate to the information. For each question you are given five possible answer options. You have to work out the correct answer from the information provided and then select this from the five options given.

Please note that you may use a calculator for this test

Have a look at the practice question below. The answer to the first question is given. Try and work out the answers to the other three questions, and then check your answers against the explanations on the back page.

The table shows the annual cost of breakdown cover with two motoring organisations.

Type of cover	Motoring Organisation	
	Blue Star	Green Arrow
Gold	£75	£90
Silver	£65	£60
Bronze	£40	£30

1. Three members of a family share equally the cost of Silver cover for one car with Green Arrow. How much does each person pay?
- A. £20      B. £25      C. £30      D. £60      E. £180

The correct answer is £20. To answer this question you first have to find out how much Silver cover with Green Arrow costs. The table shows you that this is £60. To find the cost to each person, you have to divide £60 by 3. £60 divided equally between three people gives you the answer of £20.

2. There is a 10% discount if you take out breakdown cover for more than one car. What is the cost of having two cars with Green Arrow Bronze cover?
- A. £46      B. £54      C. £60      D. £66      E. £72
3. What is the ratio of the cost of Silver cover with Green Arrow to Gold cover with Green Arrow?
- A. 1:3      B. 2:3      C. 3:2      D. 2:1      E. 3:1
4. The cost of Bronze cover with Blue Star increases to £50. By what percentage has the cost of Bronze cover increased?
- A. 10%      B. 20%      C. 25%      D. 50%      E. 125%

# Abstract Reasoning

## Instructions

The Abstract Reasoning test looks at your ability to identify relationships between shapes. This ability is related to testing out new ideas and solving problems.

You will see two sets of shapes; 'Set A' and 'Set B'. All of the shapes in Set A are similar in some way, and all the shapes in Set B are similar in some way. Set A and Set B are not related to each other. You have to work out how the shapes in Set A are related to each other and how the shapes in Set B are related to each other. You then have to work out whether further shapes belong to Set A, Set B or Neither set.

Have a look at the practice question below. The answer to the first shape is given. Try and work out the answers to the other four shapes, and then check your answers against the explanations on the back page.

Set A		Set B	
1	2		
3			
4			
5			

The only common feature between the cells in Set A, is that they all contain white shapes. As some of the cells in Set A contain one shape, and others contain two shapes, the number of shapes in each cell does not matter.

Similarly for Set B, all the cells contain black shapes. Again, as some cells contain one shape and others contain two, the number of shapes in each cell does not matter.

The correct answer for shape 1 is Set A, as it contains a white shape.

## Answers and explanations to the practice questions

### Verbal

2. The answer to this question is Can't tell. The passage tells us that 'Land also absorbs more heat than the sea'. It does not tell us anything about how quickly land and sea cools down. Although some people may know that land cools down more quickly than sea, this statement should not be answered 'False' as this information is not given in the passage. Remember, your answer should be based only on the information in the passage and not any other knowledge you have.
3. The answer to this question is True. The first sentence tells us that "weather" is ...the day-to-day changes in our atmosphere'. The second sentence says that 'The source of these changes is the sun'. Therefore the statement is true from the information in the passage.
4. The answer to this question is Can't tell. The passage states that the movement of air '... creates areas of high and low pressure ...'. It also tells us that areas around the equator tend to be warmer, and that warm air moves from the equator to cooler areas. However, the passage does not give any information about air pressure around the equator, so you cannot tell whether the statement is true or false.

### Numerical

2. The correct answer is £54. To get the answer you first have to find the cost of Bronze cover with Green Arrow from the table. The table shows you this is £30. The cost of covering two cars would therefore be £60 ( $2 \times £30$ ), but the question also tells you that there is a 10% discount if you take out cover for more than one car.  
  
To get the final cost, you need to find the discount (10% of £60), and subtract this from the total cost. To get 10% of £60, you need to divide £60 by 100 to get £0.6, and then multiply it by 10 to get 10% (£6). The total cost is therefore £60 - £6, which gives the answer £54.
3. The correct answer is 2:3. To get the answer you need to find the highest number that will divide into the cost of Green Arrow Silver cover (£60) and Green Arrow Gold cover (£90). The highest number is 30, which divides into the cost of Silver cover twice ( $60/30=2$ ) and the cost of Gold cover three times ( $90/30=3$ ). This gives you the ratio of 2:3.
4. The correct answer is 25%. To find the percentage increase you first have to find the actual increase in cost. The table tells you that the cost of Blue Star Bronze cover was £40. The question tells you this has increased to £50, giving an increase of £10 (the difference between £40 and £50).  
  
You then have to find what percentage of the original cost (£40) the increase is (£10), by dividing the increase by the original cost. £10 divided by £40 gives you 0.25. To turn this into a percentage, multiply the answer (0.25) by 100. This gives the answer of 25%.

### Abstract

2. The correct answer is Neither. As it contains one white and one black shape, it does not clearly belong to either set.
3. The correct answer is Set A, as it contains white shapes. Although shape 3 contains five white shapes, more than any cells in Set A, it still conforms to the rules of Set A as the number of shapes is not part of the solution.
4. The correct answer is Neither. As the shapes have both black and white parts to them, they do not clearly belong to either set.
5. The correct answer is Set B, as this contains a black shape.

## WHAT CAN I DO TO PREPARE FOR AN ABILITY TEST?

### General preparation

- ◆ Test-taking is a skill which can be developed. You can improve your performance with practice, so start preparing as early as you can.
- ◆ Ask for sample tests from your careers service and practise taking them. In the case of prospective employers, find out what kind of tests you will be required to do and ask if example questions are available.
- ◆ Spend time looking at the formats of different tests and answer sheets. This will help you to become more comfortable with them so that you feel on familiar ground when you see the test paper.
- ◆ Practise timing yourself. Pacing yourself is a vital skill in timed tests and it is a skill that you can improve with practise. Practising with other people is a good way to create test conditions. Review basic maths, particularly calculations you know you find difficult. Think of possible mathematical operations that could be required and practise them. Make sure you can interpret graphs, tables, pie charts, etc.
- ◆ Improve your vocabulary and comprehension by reading. Look up the meanings of words you are unsure of. Practise reasoning through what is clearly true or untrue from passages of information. Review your understanding of grammar and practise spotting associations between words or types of words.
- ◆ Take care of your physical health and get several good night's sleep in a row before the test.
- ◆ If you have experienced serious problems with nerves or sleeplessness around exams, it is worth getting advice about how to deal with this in advance.

### Some final tips on taking the tests

- ◆ Listen to and read the test instructions carefully. If you are unclear about anything, ask.
- ◆ You will be given time to read the instructions before the timed part of the test begins. Further examples and practice questions will be given to remind you of what you have to do. Work through these to make sure you are clear about what the test requires you to do.
- ◆ The tests are usually strictly timed, so it is important to work as quickly and as accurately as you can. If you are stuck on a question, do not waste time on it - go on to the next one and come back to it at the end if you have time.
- ◆ The best approach with multiple-choice questions is to try and work out the answer yourself, and then see if your answer is one of the given options. If your answer is not one of the given options, check your reasoning or calculations. If you are absolutely stuck, make an educated guess rather than picking an answer randomly. Try to eliminate answers you know to be wrong and then go with your best guess from the remaining options.
- ◆ Only change your answer if you are sure you have made a mistake. If you are unsure, it is probably best to stick with your first answer.

### On the day before the test

- ◆ Check the time and place of the test, and make sure of your travel arrangements.
- ◆ Review anything you feel you need to, but don't overdo it; set yourself a certain amount of time to do this and then allow yourself an evening doing something completely different.
- ◆ Try to build a positive mental attitude; think positively about your abilities and try to stop negative thoughts. Distract yourself by doing something that you know you will enjoy e.g. read a good book, watch a film, do something that makes you feel good about yourself.
- ◆ Eat a good meal and get a good night's sleep.

### On the morning of the test

- ◆ Breakfast is important but avoid 'heavy' foods which can make you feel tired during the test. Some people consider unsugared foods, such as cereal and bananas, good 'brain food'.
- ◆ Collect everything you need to take into the test. Some people like to take a drink or something sweet into a test. Don't forget your glasses or hearing aid, if you wear them.
- ◆ Try to remain calm and to maintain a positive mental attitude.
- ◆ Leave yourself plenty of time to get ready and get to the test centre so that you do not panic.

## The test itself

- ◆ Listen to and read the test instructions carefully. If you are unclear about something, ask.
- ◆ You will be given time to read the instructions before the timed part of the test begins. Example and/or practise questions are usually given to help you understand what you have to do. Do work through these to make sure you are clear about what the test requires you to do.
- ◆ Try not to pay attention to other people taking the test around you. Remain focused on the test.
- ◆ Ability tests are usually strictly timed, so it is important to work as quickly and as accurately as you can. If you are stuck on a question, do not waste time on it - go on to the next one and come back to it at the end if you have time.
- ◆ The best approach with multiple-choice questions is to try and work out the answer yourself, and then see if your answer is one of the given options. If your answer is not one of the given options, check your reasoning or calculations. If you are absolutely stuck, make an educated guess rather than picking an answer randomly; eliminate answers you know to be wrong and then go with your best guess from the remaining options. In the case of True/False questions, absolute words such as 'always', 'never', 'only', 'must', 'completely' sometimes provide clues to the correct answer.
- ◆ Only change your answer if you are sure you have made a mistake. If you are unsure, it is probably best to stick with your first answer.

**PLEASE NOTE: These points are for general guidance only.**

**You should always follow the specific instructions you are given for the test or questionnaire you are taking.**

## DEVELOPING YOUR SKILLS

Below is a checklist of activities you can do to practice the kinds of skills needed for Verbal, Numerical and Abstract tests. The more time you spend on these activities, the more it will help your test performance. In the couple of weeks before a test, try and spend at least an hour on each activity. Use the tick boxes provided to record the activities you have completed.

### Verbal

- Take time to think carefully about arguments in newspapers, books etc. Ask yourself questions like 'What evidence has been presented for or against the argument', 'Is there sufficient evidence to justify the conclusion', 'Is this argument logical', 'How could the argument be criticised'.
- Look up the meaning of any words you are unsure of.
- When reading, think about the more complex words. What words have the same or similar meaning and so could be used instead (it may be useful to use a thesaurus)? Also, what words mean the opposite?

### Numerical

- Make sure you are generally fluent with using numbers; do simple calculations in your head or on paper rather than using a calculator.
- Practice the basic numerical functions; addition, subtraction, multiplication and division.
- Check that you are comfortable using different numerical formats and understand how to do basic conversions between formats. Useful areas to revise can include fractions, decimals, percentages, angles, ratios, area and volume.
- Take time to look at numerical information presented in different ways such as tables, graphs, pie charts and text. Make sure you understand what the information presented in these different ways is telling you.

### Abstract

- Abstract tests are usually about finding patterns and identifying categories. Spend time thinking about what features make objects alike and what features make them different.
- Books containing logic puzzles are readily available. Try buying a book of puzzles and completing them.