



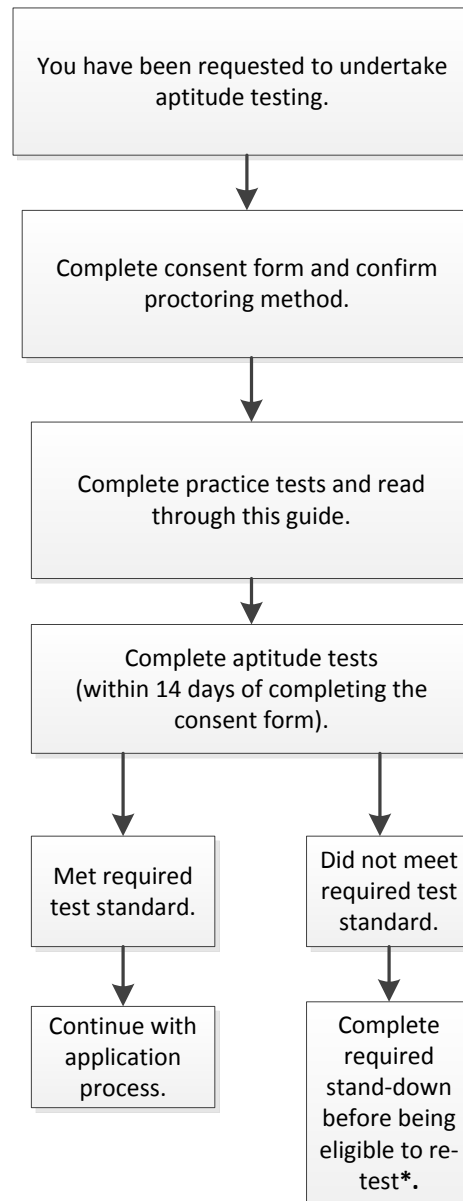
TE OPE KĀTUA O AOTEAROA
DEFENCE FORCE

Aptitude Testing Preparation Guide

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Aptitude Testing Flow Chart



***Re-testing** – you are able to have a maximum of 3 attempts at the NZDF aptitude tests. If you do not meet the required test standard the first time you are required to have a 3 month stand-down, before you are able take the tests for a second time. If you do not meet the required test standard a second time, you are required to have a 12 month stand-down before your third and final attempt.

Aptitude Test Information

Like many employers, the NZDF uses aptitude tests in its selection procedures. The NZDF has been doing so since World War II when it began using aptitude tests to select aircrew.

Aptitude tests provide reliable and objective information about an individual's ability to perform under training and on the job. They help the NZDF to identify the candidates who are most likely to succeed in training and early in their careers.

What are aptitude tests?

The General Mental Ability test is different to the tests you have done at school. Rather than assessing what a person knows, it assesses a person's ability to do certain things compared to others (e.g. solving unfamiliar problems). The mechanical comprehension test is based more on rules and concepts that you can study. You will take these assessments in test conditions, with time limits, so they are fair and comparable with other candidates.

What aptitude tests will I complete?

The NZDF uses a company called SHL to conduct the required aptitude tests we need.

You will complete the SHL 'Verify G+', a test that provides an indication of your General Mental Ability (GMA), this test includes:

- Numerical reasoning;
- Deductive reasoning; and
- Inductive reasoning.

Depending on the trade you are applying for there is also a Mechanical Comprehension Test for measuring your ability to understand mechanical concepts.

Each of these test types is described further in the Test Descriptions Section (page 7).

How do these tests work?

Lots of people find these tests difficult, because they are designed to challenge you.

These tests are known as computer adaptive tests (CAT), meaning they adapt and change in response to your answers. This makes the CAT more accurate in understanding your strengths and weaknesses. If you find them difficult, it's important not to give up. Do your best to complete the whole test. If you don't complete all the questions you get points deducted (they get scored randomly, also known as a score reduction) so you are better off trying your best.

What is proctoring?

Proctoring is the method the NZDF uses to observe people taking aptitude tests. There are two forms of proctoring the NZDF uses:

In-person – You sit the tests at a recruiting office using an NZDF laptop, supervised by NZDF staff.

Online – You sit the tests at a location of your choice (e.g. library, marae, office) on your web camera enabled laptop/computer. The tests cannot be done on a phone, tablet or without a web camera. Online proctoring uses your computer web-camera and screen monitoring software to view you and your test environment.

More information about proctoring can be found in the Aptitude Test Proctoring Information Guide.

Where do I take the tests?

If you choose to take the tests in-person, your Candidate Engagement Facilitator will help you book a time at your local recruitment office or facility. If you choose to take your test online, you will need to find a location that has:

- A reliable internet connection
- Access to a desktop/laptop computer that has a web camera (You cannot use a tablet or phone)
- Is quiet/private
- You can work uninterrupted for 90 minutes

Here are some location examples:

- Local or school library
- Faith/community building/church
- Marae
- Other family/friends home
- Career advisors office
- Classroom
- University lecture theatre/common room

How long are the tests?

The GMA test (Verify G+) is 36 minutes long and has 30 questions. It is recommended you allow at least 46 minutes for this test so you have enough time to read the instructions and do the practice questions.

The Mechanical Comprehension test is 15 minutes long and has 20 questions. It is recommended that you allow at least 25 minutes for this test to give you enough time to read the instructions and do the practice questions.

How long do I have to complete the aptitude tests?

Once you have acknowledged your consent form and selected which method of proctoring you wish to do, you have 14 days to complete the tests.

What happens if I fail the aptitude tests?

You have three attempts to meet the required aptitude test standards for the NZDF. If you do not meet the NZDF test standards the first time you take the tests you will be required to have a three month stand-down before you can attempt the tests a second time. If you do not meet the test standard a second time you will be required to have a 12 month stand-down before you can attempt the test a third and final time.

Test Preparation

How much preparation should I do?

It's entirely up to each person how much preparation they do prior to sitting the aptitude tests. We recommend that you engage in at least some preparation before you take the tests to give yourself the best chance to succeed.

Why should I do preparation?

Practicing these tests, in test like conditions will give you the best chance to succeed.

Regardless of your level of education and test experience, we strongly recommend that you practice and become familiar with this type of test and format.

By adequately preparing for the tests you may be able to perform better by:

- Reducing your anxiety.
- Increasing your familiarity with the test environment.
- Enhancing test taking strategies (e.g., being familiar with how long you should spend on each question).

We know there is a high percentage of candidates who return to do a second test that pass. This could possibly be down to candidates being more familiar with the test environment, test conditions and types of questions that will be asked.

What do I need?

If you have selected to do in-person proctoring you only need to bring your ID with you. An NZDF laptop, calculator, pen and paper will be supplied to you.

If you want to bring your own calculator you can.

If you have selected online proctoring you will need to have a laptop or computer with a web camera, a stand-alone calculator, and pen and paper. It is not recommended to use the calculator function on your phone or computer, as this has the potential of raising a suspected violation in your proctoring report..Make sure your computer is plugged in and has a good internet connection.

Remember, tests cannot be done on a phone, tablet or computer without a web camera.

How should I prepare?

There are many ways to prepare for aptitude testing. We recommend you:

- Make sure you understand what kind of tests you will be taking (detailed below).
- Practise solving problems similar to the ones in the test. Being familiar with the type and structure of the questions will ensure you know what you need to do during the test.
- Practise solving problems under test conditions (e.g. time constraints and pressure). Doing so may help to reduce some of the pressure that comes with timed testing.
- Practise strategies that help you to keep calm under pressure. Staying relaxed and calm should improve your ability to demonstrate your true ability.
- Prepare an appropriate space to complete testing and practice in it. The ideal space is:
 - Quiet, and free from distractions or interruptions;
 - Comfortable (think about furniture, lighting and temperature);
 - Away from distracting noises (like the TV);
 - Good quality internet connection; and
 - A place to plug your computer in.

The tests cannot be done on a phone, tablet or computer without a web camera.

Don't underestimate the impact that interruptions, distractions, or discomfort can have on your test results!

Example questions and practice tests

Example questions for each of the tests are provided below. These are just to give you an idea of the type of questions you will be asked.

Once you have read the examples, complete the practice test found in Enclosure 1 at the end of this test guide. There are also practice tests online that you should complete before your real test. They can be found at: <https://www.shl.com/shldirect/en/practice-tests>

These practice tests will simulate the types of questions you will be asked with the added pressure of answering questions under time constraints.

NOTE: You are required to create a login to access the practice tests, and can only complete each test once. Not all of the tests on the practice site will be relevant to the tests you will undergo. The tests that are most similar to the real assessment are the:

- **General Ability Test** (Standard Multiple-Choice), and
- **Mechanical Comprehension Test.**

We strongly recommend that you attempt both these tests before the real assessment. You may also want to attempt the:

- **Numerical Reasoning Test** (Standard Multiple-Choice),
- **Inductive Reasoning Test** (Standard Multiple-Choice), and
- **Deductive Reasoning Test** (Standard Multiple-Choice).

These extra practice tests are different from the real assessment as they only assess one ability at a time. They can be a good way to practise answering numerical, inductive, and deductive questions. The real assessment will be a mixture of numerical, deductive, and inductive questions just like in the General Ability practice test listed above.

FAQs

Will the tests be more challenging than the practice tests?

Yes. You will most likely find that the tests are more challenging than the practice tests.

What happens if I fail the tests?

You will have three attempts at the NZDF aptitude test, but you are required to have a stand-down before you are allowed a second or third attempt.

What if I only have access to a shared family laptop?

That is ok to use a family laptop as long as you can use it uninterrupted for 90 mins to complete your aptitude tests. If you think this is going to be an issue feel free to book a session with your Candidate Engagement Facilitator, to come into your local Defence Recruiting office to sit your aptitude tests.

I have access to a room at my marae. Can I sit my test there?

Yes, you can utilise space at your local marae, university, church, and library. As long as the space follows the criteria set under 'How Should I Prepare'.

I have limited/no internet at my home, what can I do?

You are not the only one in this situation. Your Candidate Engagement Facilitator can book a time for you to sit your aptitude tests at your local Defence Recruiting office.

I share my bedroom with my sibling. I don't have a quiet space in my home. What can I do?

That is more common than you think. Talk to your Candidate Engagement Facilitator, they can book you into your local Defence Recruiting office to sit your aptitude tests.

I have a tangi/funeral to attend with my whanau/family. What can I do?

Our condolences. When you are ready to pick things up again, talk to your Candidate Engagement Facilitator about timelines and when it will be possible to book your aptitude testing. We are here to support you through this.

I have exams coming up and am worried about missing out on the upcoming intake. What are my options?

We understand that life continues for you. We encourage you to talk to your Facilitator about timelines and when it will be possible to book your aptitude testing. We are here to support you through your exam schedule.

Test Descriptions

Test 1: General Mental Ability Test (Verify G+)

The General Mental Ability (GMA) Test consists of questions from three constructs: deductive reasoning, inductive reasoning and numerical ability. Each of these constructs are described in more detail below.

Deductive Reasoning

Deductive Reasoning questions are designed to measure your ability to draw logical conclusions based on information you are provided, to identify strengths and weaknesses of arguments, and to complete scenarios using incomplete information.

Example questions: Deductive Reasoning

For each of these questions, you read the facts presented and then use these to answer the question that follows. Select the letter that corresponds with the correct answer. Solutions are provided below the questions.

Question One: Review the facts below:



- Jane drives a red car
- Susan drives a blue car
- There are no red cars in Ohio
- Blue cars get 33 miles per gallon of gasoline

Based on the information above, which of the following **MUST** be true?

- | | | | | |
|--------------------------------|---------------------------------|----------------------------------------------------------|--------------------------------------------------------------|---------------------------------------------------|
| A
Jane lives in Ohio | B
Susan lives in Ohio | C
Red cars get 36 miles per gallon of gasoline | D
Susan's car gets 33 miles per gallon of gasoline | E
Jane and Susan live in the same state |
|--------------------------------|---------------------------------|----------------------------------------------------------|--------------------------------------------------------------|---------------------------------------------------|

Question Two: John, Sam and Carol are standing in line. John is not behind Carol. Sam is last in line. Who is standing first in line?

- | | | |
|------------------|-----------------|-------------------|
| A
John | B
Sam | C
Carol |
|------------------|-----------------|-------------------|



Deductive Reasoning Example Question Answers

Question One: Since blue cars get 33 miles per gallon of gas, the fact that Susan drives a blue car means that her car gets 33 miles per gallon of gas. Therefore, the correct answer is D.

Question Two: Sam is at the back of the line, meaning that either John or Carol must be standing first in line. Because we know John is not behind Carol, he must be in front of Carol.

Therefore, John is at the front of the line, and the answer is A.

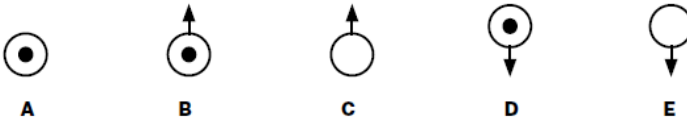
Inductive Reasoning

Inductive reasoning questions may also be referred to as abstract reasoning questions or diagrammatic style questions. These questions measure the ability to work flexibly with unfamiliar information and find solutions. They assess your ability to identify underlying patterns in information and predict outcomes using that information.

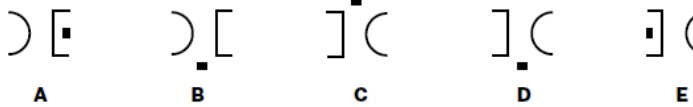
Example questions: Inductive Reasoning

In each example given below, you will find a logical sequence of five boxes. Your task is to decide which of the boxes completes this sequence. To give your answer, select one of the boxes marked A to E. Answers to each question can be found below the questions.

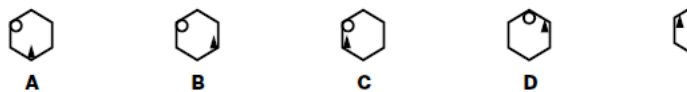
Question One:



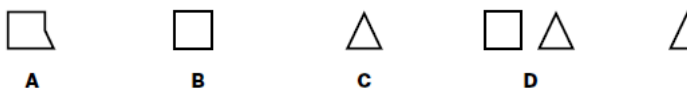
Question Two:



Question Three:



Question Four:



Inductive Reasoning Example Question Answers

Question One: In this example, there are two rules to follow.

The first is that the centre of the circle follows the pattern that alternate circles have a dot in the centre. Following this rule, the next diagram in the sequence does not have a dot in the centre. Therefore, the correct answer must be C or E.

The second rule is that the arrows change the direction that they point from up to down to back up again. Following this, the next diagram in the sequence must contain an arrow that points down. Therefore, the correct answer is E.

Question Two: In this example, there are two rules to follow.

The first is that the semi-circle and semi-rectangle swap positions. Following this rule, the next diagram in this sequence will contain a semi-rectangle on the left side of the pattern and a semi-circle on the right side of the pattern. Therefore, the correct answer is C, D or E.

The second rule is that small black square rotates clockwise. Following this pattern, the next diagram will contain a small black square at the bottom of the box. Therefore, the correct answer is D.

Question Three: In this example, there are two rules to follow.

The first is that the circle rotates around the inside of the hexagon in an anti-clockwise direction. Following this rule, the next diagram will have a circle in the top corner of the hexagon. Therefore, the answer must be D.

This can be confirmed by following the second rule that the black triangle alternates position from the bottom left of the hexagon to the top right and back to the bottom left again. Following this pattern, the next diagram must contain a black triangle in the top right corner of the hexagon. This confirms that the answer is D.

Question Four: In this example, there is one rule to follow.

This is that the square and triangle slowly move towards the centre and finally merge. The next diagram must contain the square and triangle fully merged and therefore the answer is B.

Numerical Ability

The questions you will be asked involve interpreting numerical data presented in charts, graphs, and tables and to use mathematical concepts to solve problems.

Answering some questions will require you to be able to compute solutions accurately using addition, subtraction, multiplication, and division.

Some questions may require you to understand percentages, fractions, decimals, proportions, basic geometry and basic probability.

Developing your skills in these areas may improve your ability to answer the questions in the numerical reasoning part of the assessment. Reviewing these areas if you have not done any calculations since leaving school may be beneficial. Exactly what you should practise, or how, will depend on your current level of numerical ability and preferred way of learning.

Example questions: Numerical Reasoning

For each question below, select the letter that corresponds with your answer.
Answers can be found below the set of questions.

Newspaper Readership				
Daily Newspapers	Readership (millions)		% of adults reading each paper in Year 3	
	Year 1	Year 2	Males	Females
The Daily Chronicle	3.6	2.9	7	6
Daily News	13.8	9.3	24	18
The Tribune	1.1	1.4	4	3
The Herald	8.5	12.7	30	23
Daily Echo	4.8	4.9	10	12

Question One: Which newspaper was read by a higher percentage of females than males in Year 3?

A The Tribune **B** The Herald **C** Daily News **D** Daily Echo **E** The Daily Chronicle

Question Two: What was the combined readership of the Daily Chronicle, the Daily Echo, and The Tribune in Year 1?

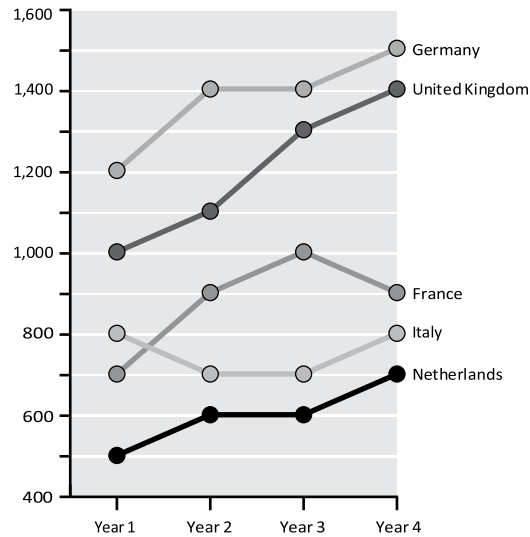
A 10.6 **B** 8.4 **C** 9.5 **D** 12.2 **E** 7.8

Question Three: In Year 3, how much more than Italy did Germany spend on computer imports?

- A 650 million B 700 million
 C 750 million D 800 million
 E 850 million

Question Four: If the amount spent on computer imports into the United Kingdom in Year 5 was 20% lower than in Year 4, what was spent in Year 5?

- A 1,080 million B 1,120 million
 C 1,160 million D 1,220 million
 E 1,300 million



Numerical Ability Example Question Answers:

Question One: To answer this question, you need to compare the data in the column 'Percentage of adults reading each paper in Year 3' from the Newspaper Readership table.

The only newspaper with more female than male readers is the Daily Echo. Therefore, the answer is D.

Question Two: To answer this question, you need to look at the data in the 'Year 1 Readership (millions)' column from the Newspaper Readership Table.

To calculate the combined readership for the three newspapers mentioned, add their readership numbers. So, to find this answer, you complete the following calculation: 3.6 million + 4.8 million + 1.1 million = 9.5 million. Therefore, the answer is C.

Question Three: To answer this question, you need to look at the figures from Germany and Italy for Year 3 in the 'Amount Spent on Computer Imports' graph. Germany spent 1,400 million Euros and Italy spent 700 million Euros.

To work out how much more Germany spent than Italy, simply calculate the difference (1,400 million - 700 million), which leaves 700 million euros. Therefore, the answer is B.

Question Four: To answer this question, you need to look at the figures from the UK in Year 4 from the 'Amount spent on Computer Imports' graph. From here, we can see that 1,400 million euros was spent in Year 4.

To calculate the amount spent on computer imports in Year 5, we first need to calculate 20% of 1,400 million. To do so, we complete the following calculation: 1,400 (million) x 0.20 = 280 million (this is 20% of 1,400 million). We then subtract 280 (million) from 1,400 (million) leaving 1,120 (million). Therefore, the answer is B.

Test 2: Mechanical Comprehension

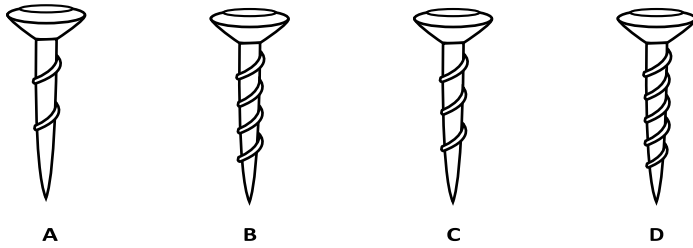
Mechanical comprehension tests are designed to assess your ability to understand mechanical concepts. Answering some of these questions requires an understanding of mechanical principles such as:

- leverage;
- weight and balance;
- rotation of shapes;
- gears and pulleys;
- fluid hydraulics;
- volume; and
- temperature and pressure.

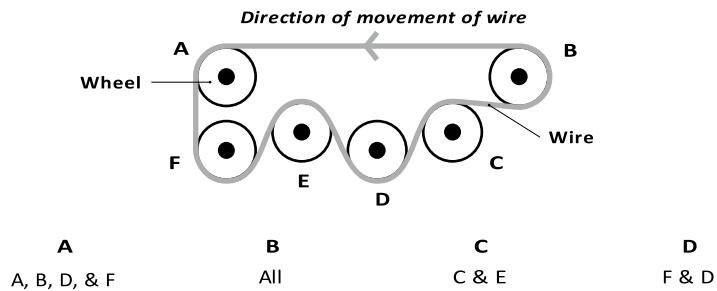
Example questions: Mechanical Comprehension

For each of these questions, read the question and then review the graphic.
Select the letter that corresponds with the correct answer.
Answers are provided below the example questions.

Question One: Which screw would require the most force to turn?



Question Two: Which wheels are turning counter-clockwise?



Mechanical Comprehension Example Question Answers

Question One: Screw A.

Question Two: A, B, D & F.

Other Test Preparation Resources

Some applicants find it useful to complete practice tests found elsewhere on the internet. Please be aware that the questions found elsewhere may not be similar to what you will receive in NZDF tests. That is why we only recommend the tests on the SHL practice site. These will be the most similar to those in the actual assessment.

There are other websites that may be of interest. Please be aware that the websites listed below are not affiliated with the NZDF. The NZDF does not confirm the validity, accuracy, completeness or reliability of any statement contained in the linked sites. The NZDF are not responsible for the contents of any the linked sites, nor are we liable for any direct or indirect loss or damage suffered by you from accessing, using, or relying on these sites. The NZDF is also not liable for any costs associated with any of the linked sites.

Please be aware that some of these websites have a cost associated with using them, quite often you can try one or two tests for free before you have to pay anything.

Please be aware if you choose to pay for any website the NZDF will not cover this cost.

<https://assessmentday.co.uk>

<https://www.apititude-test.com>

<https://www.jobtestprep.co.uk>

For online courses and tutorials relevant to concepts in the General Numeracy section of the test:

<https://pathwaysawarua.com>

<https://khanacademy.org>

Good luck with your preparation and testing!



Enclosure 1: SHL Practice Test Booklet

Practice Test Booklet

Verify G+ and Verify Mechanical Comprehension

Verify G+

Practice Questions

Question 1

Airplanes A, B, C, D, and E have from 4 to 10 first class seats.
Airplane A has the fewest number of first class seats that any airplane offers.
Airplane B and Airplane C have the same number of first class seats.
Airplane C has twice as many first class seats as Airplane D.
Airplane E has fewer first class seats than Airplane B.

Which statement **MUST NOT** be true?

- A) Airplane D has five first class seats.
- B) Airplane D has more first class seats than Airplane A.
- C) Airplane E has fewer than six first class seats.
- D) Airplane A has four first class seats.
- E) Airplane B has fewer first class seats than Airplane D.

Question 2

All wood parts must be sanded with a belt sander.
Some steel parts are sanded with a disk sander.
Some wood parts are sanded at more than one speed.
Ian operates a belt sander.
Each steel part is sanded and etched with the same tool.

Which statement **MUST** be true?

- A) Ian operates a sander that has more than one speed.
- B) Only disk sanders are used to etch steel parts.
- C) Some disk sanders can be used for sanding and etching.
- D) Ian sands wood parts.
- E) Ian sands and etches items.

Question 3

Virtual Training Program Costs				
	Program A	Program B	Program C	Program D
Program Cost	\$14,000	\$13,000	\$14,500	\$16,000
Administration Fee	\$145	\$170	\$140	\$130
HR Staff Needed	3	4	4	3
Hours to Complete Training	25	28	25	30

A human resource manager is considering replacing a traditional training program with a new virtual training program for 10 new employees. The salary of the human resource (HR) staff is \$20 per hour, and the salary of new employees is \$12.50 per hour.

Assuming the quality of programs is equal, which is the most cost efficient?

- A) Program A.
- B) Program B.
- C) Program C.
- D) Program D.
- E) All would be the same.

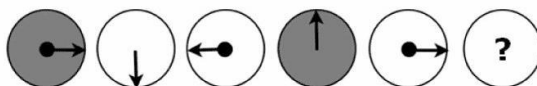
Question 4

A restaurant offers a new promotion of 20% off the original price of cheese pizzas, which is \$12. Before the promotion, 250 pizzas were sold each day. After the promotion, the sale of pizza increases an average of 18% more per day.

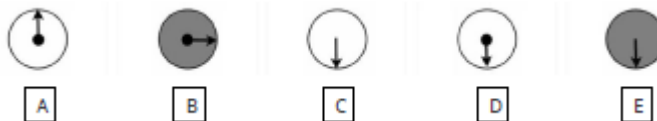
How much more or less does the restaurant make each day in pizza sales after the promotion?

- A) Decrease by \$600.
- B) Decrease by \$168.
- C) Increase by \$168.
- D) Increase by \$600.
- E) Does not change.

Question 5



What comes next in the above sequence? Select the response choice that replaces the question mark. Choose one of the five responses below.



Question 6



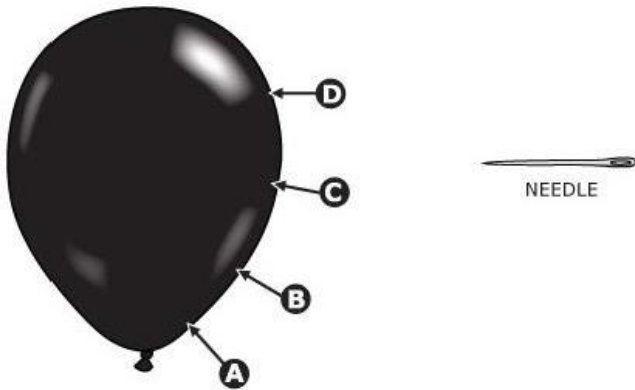
What comes next in the above sequence? Select the response choice that replaces the question mark. Choose one of the five responses below.



Verify Mechanical Comprehension

Practice Questions

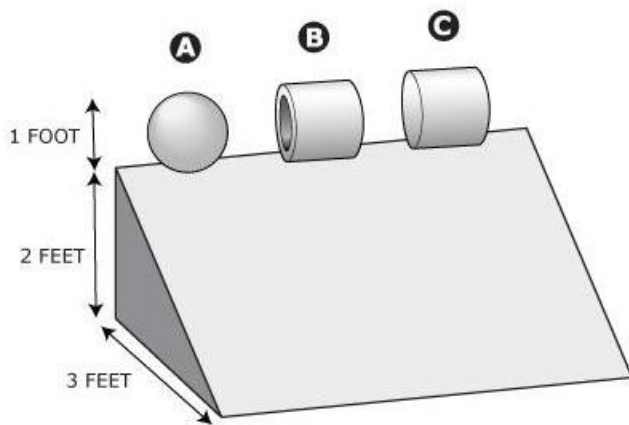
Question 1



Where could the needle puncture the balloon with the least amount of effort?

- A) Point A.
- B) Point B.
- C) Point C.
- D) Point D.

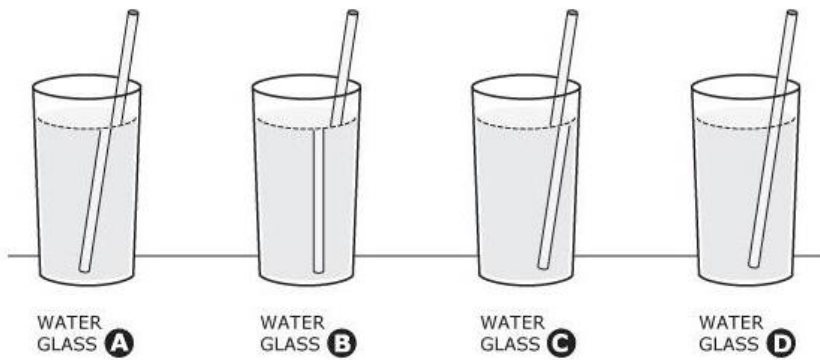
Question 2



Assuming the objects are made of the same materials and that wind resistance is constant, which object will roll slowest down the incline?

- A) Solid Sphere A.
- B) Hollow Cylinder B.
- C) Solid Cylinder C.
- D) All objects will roll at the same rate.

Question 3



Which picture correctly depicts the refraction of a thermometer submerged in a water glass?

- A) Water Glass A.
- B) Water Glass B.
- C) Water Glass C.
- D) Water Glass D.

Answers

Verify G+

- 1) **Answer E – Airplane B has fewer first class seats than Airplane D.** Answers A, B, and D *must* be true. Answer C *could* be true.
- 2) **Answer C – Some disk sanders can be used for sanding and etching.** Answers A, B, D, and E *could* be true.
- 3) **Answer A – Program A is the cheapest.** Add the following together: cost of program + admin fees + HR staff costs (hourly wage * number of hours in program * number of HR staff) + employee costs (hourly wage * number of hours in program * number of employees) = \$18770 for program A, which is the cheapest of the four options.
- 4) **Answer B – Decrease of \$168.** $\$12 * 250 = \3000 for standard pizza sales. Pizzas discounted by 20% when there is a sale ($\$12 * 0.8 = \9.60). Number of pizzas sold increases by 18% when there is a sale ($250 * 1.18 = 295$). $\$9.60 * 295 = \2832 for pizza sales. $\$3000 - \$2832 = \$168$ loss.
- 5) **Answer C – Arrow rotating 90 degrees clockwise each step in the sequence.** Dot in middle of circle alternates between appearing and not appearing at each step in the sequence. Circle becomes grey every 3rd step in the sequence.
- 6) **Answer A – Circle moving anticlockwise along perimeter of square.** Cross moving clockwise along perimeter of square. Triangle moving right one position and upwards each time.

Verify Mechanical Comprehension

- 7) **Answer C –** this is the surface point with the most stretch/tension. This will require less force to rupture than a surface with less stretch/tension.
- 8) **Answer B –** hollow cylinder because it has the greatest rotational inertia (due to its mass being furthest from the central point of rotation).
- 9) **Answer C –** as light passes through different mediums like glass and water, it bends. This is known as refraction.