



Candidate Handbook

Objectives for testing.

Testing for suitability to undergo aviation training have a long tradition. The objective for the testing is to make sure each candidate has the ability to undergo aviation training with a successful outcome.



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1. Assessment: What Should I Expect?

1.1 Log In Screen

You will be provided with a 15 digit alpha numeric licence number. Please keep a note of this licence in case you should need to log in again.

When you log in you will be asked to provide your first name, surname, date of birth, gender, country of residence and email address. The system will remember these details so please ensure that you keep a note of the details that you provide for future reference.

N.B. - Please note that the system is case sensitive: you must re-enter the details exactly as they were the first time (for example: you would be unable to re-login if you inputted your name as 'Andy' in the first instance and 'andy' in the second instance).



Figure 1-1: Online Login Screen

You must agree to the terms and conditions before you can continue. When you have completed all details click 'login' to continue. A login screen will appear – once your details have been authenticated, a 'continue' button will appear - click this to enter the assessment.

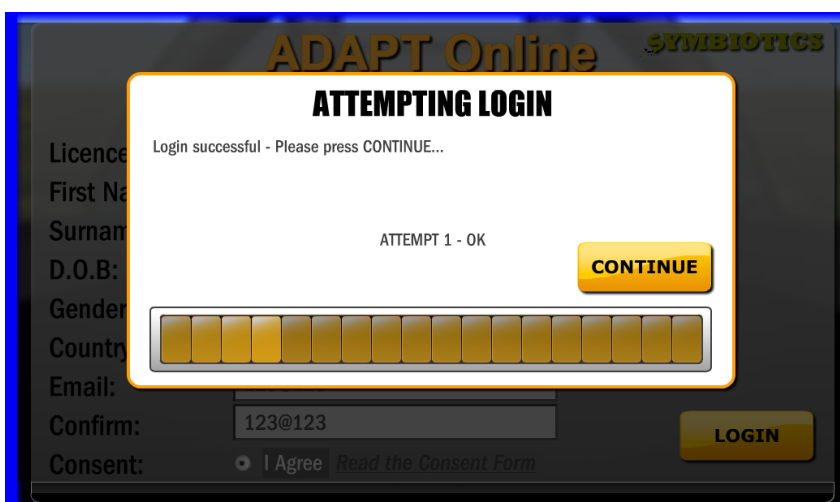


Figure 1-2: Online Login Screen

The tests that you have been allocated will load. Click 'continue' to receive the instructions for your first test.

2. Maths Stage

2.1 Instructions

Read the instructions carefully before you click 'next' to start the test. The test is 30 minutes long and the timer will commence when you start the test. Click 'next' to move on to the next page of the test. You may use the 'next' and 'previous' buttons to scroll through the pages of the test.

The test will automatically finish after 30 minutes whether or not you have answered all the questions. You will be logged out of the test and your data uploaded. If you finish the assessment within 30 minutes you may click 'finish' to exit the test. Your data will be uploaded – you will not be able to return to the assessment.

2.2 Level of Maths Paper

The level of maths paper is progressive, the questions in 'Progressive Maths Paper' get progressively more difficult throughout the paper:

Questions 1-5 are at foundation level and worth 1 mark each

Questions 6-15 are at intermediate level and worth 5 marks each

Questions 16-20 are at advanced level and worth 10 marks each

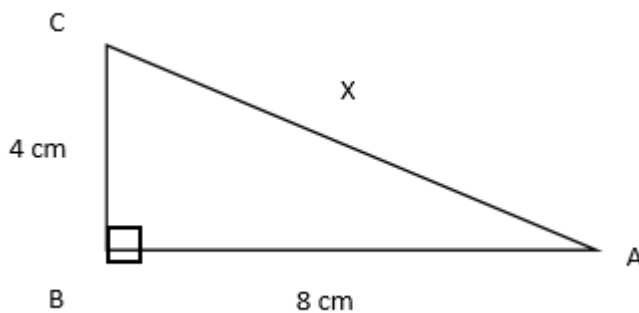
You may choose which questions you answer and in what order.

2.3 Topics Covered

- Speed/Distance/Time
- Calculating Fuel Rate
- Basic Pythagoras

2.4 Example questions Mathematics

1. Pythagoras Theorem states that $\text{Hypotenuse}^2 = \text{Leg A}^2 + \text{Leg B}^2$. Find the length of «x» in the right-angled triangle below. (Find an approximate value)



Answer:

2. You are travelling with a train from Sandefjord at 06:35. 25 minutes after stepping out of the train in Drammen, you look at your watch again. It then shows 07:50. How long were you travelling by train?

You were on the train for _____ . (HH:MM)

3. Further on, you travel by bus to Asker. The bus used 90 minutes on a distance of 60km.
What is the average speed?

Answer: _____ .

4. 1 nautical mile equals 1852 meters. How many km will 20 nautical miles be?

Answer: _____ .

5. 6 cm on a map equals 12 kilometers on the earth. You want to draw a line on that map which represents a distance of 60 kilometers.

a) How many centimeters will the line on the map be?

Answer: _____

b) What is the scale of the map?

Answer: _____

2.5 Answers Example questions Mathematics

1) 8,94

2) 00:50

3) 40km/h

4) 37km

5) a) 30

b) 1:200 000

2.6 Formulas

Below is not an all-inclusive list; familiarising yourself with the topics outlined above should ensure you are aware of all the relevant formulas, including:

Speed = Distance / Time

Cosine and Sine rules

Pythagoras's theorem: $c^2 = a^2 + b^2$

Angles in a triangle add up to 180°

Trigonometry ratios

3. Physics Stage

3.1 Instructions

Read the instructions carefully before you click 'next' to start the test. The test is 30 minutes long and the timer will commence when you start the test. Click 'next' to move on to the next page of the test. You may use the 'next' and 'previous' buttons to scroll through the pages of the test.

The test will automatically finish after 30 minutes whether or not you have answered all the questions. You will be logged out of the test and your data uploaded.

If you finish the assessment within 30 minutes you may click 'finish' to exit the test. Your data will be uploaded – you will not be able to return to the assessment.

3.2 Level of Physics Papers

The level of physics paper is progressive, the questions in 'Progressive Physics Paper' get progressively more difficult throughout the paper:

Questions 1-5 are at foundation level and worth 1 mark each

Questions 6-15 are at intermediate level and worth 5 marks each

Questions 16-20 are at advanced level and worth 10 marks each

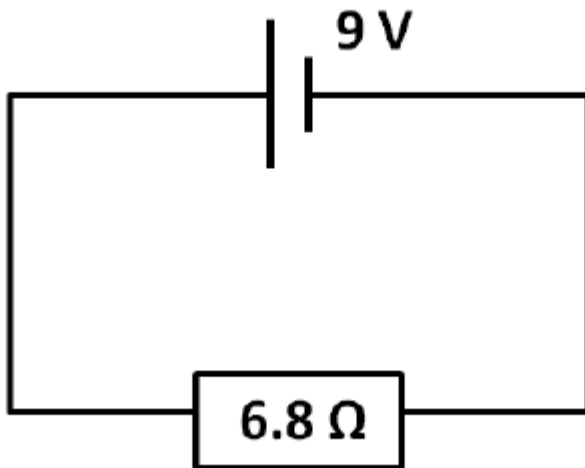
You may choose which questions you answer and in what order.

3.3 Topics Covered

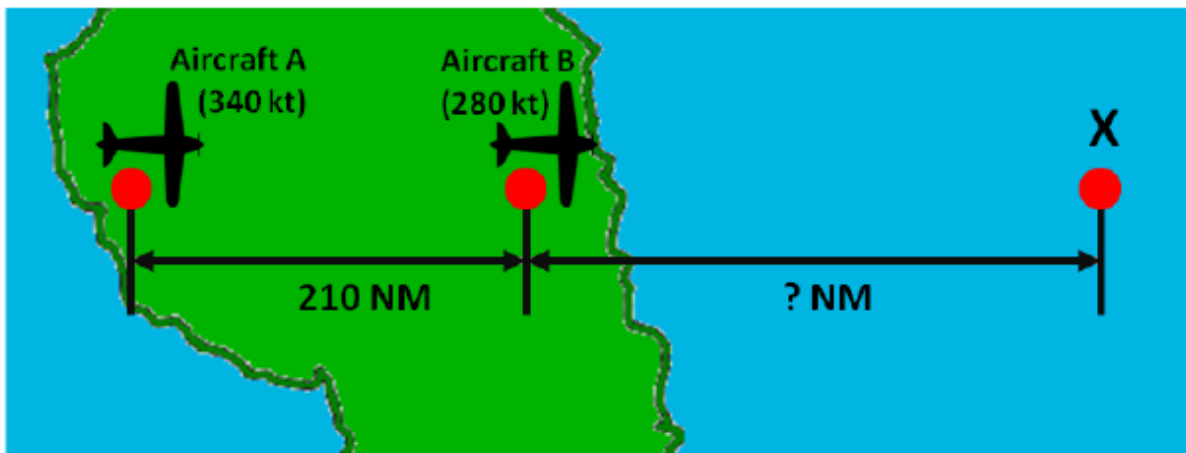
- Properties of solids, liquids and gases
- Magnets
- Energy
- Mass and weight
- Waves – mechanical and electromagnetic
- Basic circuitry
- Units of measurement
- The universe
- Pressure
- Acceleration
- Force
- Circuitry – current and resistors
- Velocity
- Levers
- Springs
- Balancing weights
- Formulas

3.4 Example questions Physics

1. In an emergency stop, a driver applies the brakes in a car travelling at 24 ms^{-1} . The car stops after travelling 19.2 m while braking. Calculate the average acceleration of the car during braking?
2. Calculate the current passing through a 6.8Ω resistor when it is connected to a 9 V battery:



3. A sample of ideal gas has a volume of $1.50 \times 10^{-4} \text{ m}^3$ at a temperature of 22°C and a pressure of $1.20 \times 10^5 \text{ Pa}$. If the volume of the gas remains constant, calculate the temperature (in Kelvin not $^\circ \text{C}$) at which the pressure of the gas is $2.00 \times 10^5 \text{ Pa}$.
4. In a game of cricket, a ball leaves a bat in a horizontal direction from a height of 0.39 m above the ground. The speed of the ball is 35 ms^{-1} . The ball takes 0.28 seconds to reach the ground again. What horizontal distance has the ball travelled in this time?
5. In the diagram below, Aircraft A is flying East and maintaining a groundspeed of 340 kt (a $\text{kt} = \text{speed of } 1 \text{ NM / hr}$). Aircraft B is flying in the same direction as aircraft A but 210 NM ahead, maintaining a ground speed of 280 kt . Aircraft A will catch Aircraft B at Point 'X'. What distance will Aircraft B have travelled when this event occurs?



3.5 Answers Example questions Physics

- 1) -15 ms⁻²
- 2) 1.32 A
- 3) 492 K
- 4) 9.9 m
- 5) 980 NM

3.6 Formulas

Below is not an all-inclusive list; familiarising yourself with the topics outlined above should ensure you are aware of all the relevant formulas, including:

Speed = Distance/Time

Gas laws – Boyle-Mariotte law, Gay-Lussac law, Dalton's law

Newton's equations of motion

Hooke's Law

Bernoulli's Theorem

Ohms Law

4. Learning and Multi-tasking (FAST)



Figure 4-1: FAST Assessment Screen

The FAST stage is an online screening tool that takes approximately 15 minutes to complete. You will be required to:

Follow verbal and written instructions

Monitor a cockpit view and flight path

Fly a 'crash' course

Answer cognitive questions. The types of cognitive questions you will be asked are:

- o Numerical Reasoning
- o Verbal Reasoning
- o Abstract Reasoning
- o Perceptual Speed and Accuracy
- o Spatial Relationship Reasoning
- o Working Memory

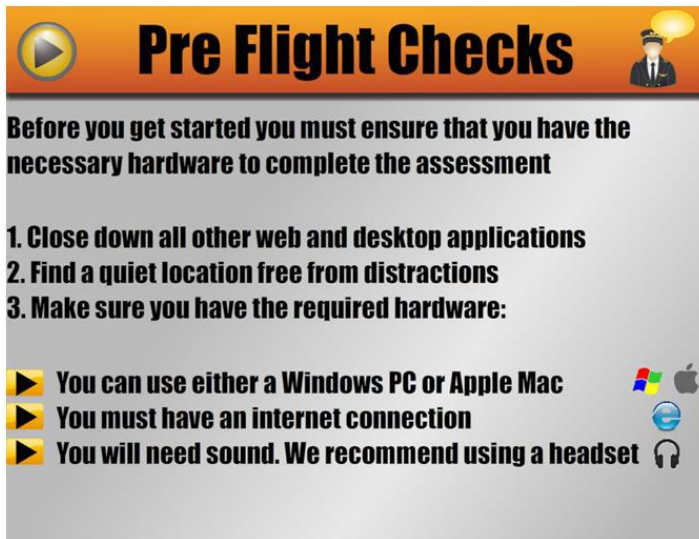
Examples of these types of questions can be found online.

- Provide self-analysis in the form of a mini-debrief

See below for details on each phase of the physical assessment.

4.1 Step by Step Guide to FAST

4.1.1 Information on System Configuration and Requirements



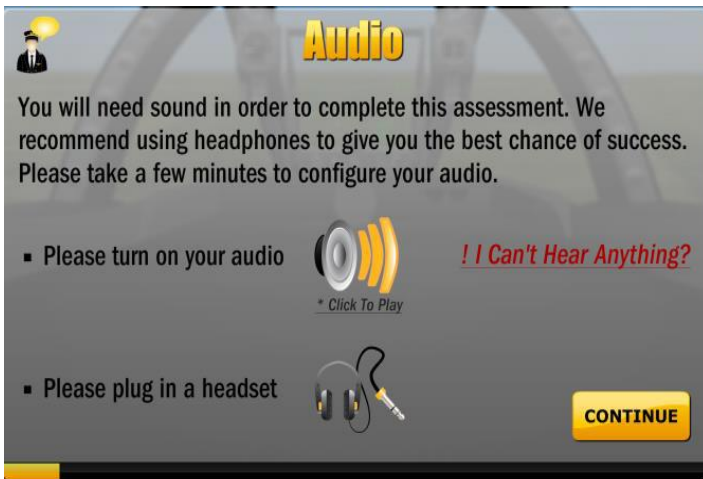
Pre Flight Checks

Before you get started you must ensure that you have the necessary hardware to complete the assessment

1. Close down all other web and desktop applications
2. Find a quiet location free from distractions
3. Make sure you have the required hardware:

- ▶ You can use either a Windows PC or Apple Mac
- ▶ You must have an internet connection
- ▶ You will need sound. We recommend using a headset

Figure 4-2: Explanation of hardware required



Audio

You will need sound in order to complete this assessment. We recommend using headphones to give you the best chance of success. Please take a few minutes to configure your audio.

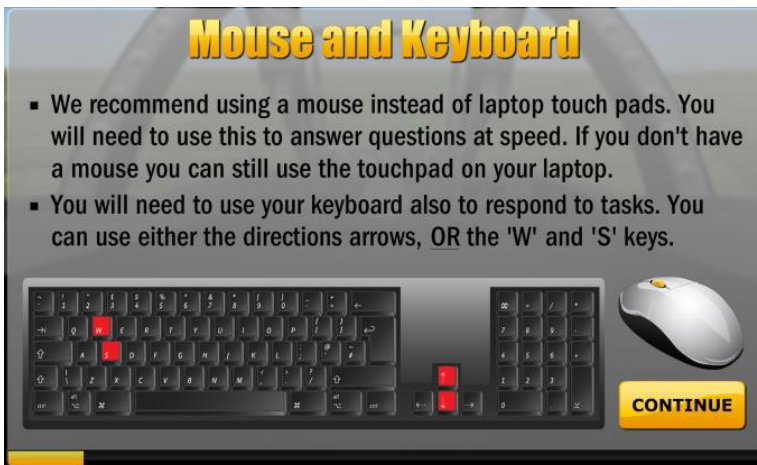
- Please turn on your audio
- Please plug in a headset

! I Can't Hear Anything?

* Click To Play

CONTINUE

Figure 4-3: Explanation of Audio Requirements



Mouse and Keyboard

- We recommend using a mouse instead of laptop touch pads. You will need to use this to answer questions at speed. If you don't have a mouse you can still use the touchpad on your laptop.
- You will need to use your keyboard also to respond to tasks. You can use either the directions arrows, OR the 'W' and 'S' keys.

CONTINUE

Figure 4-4: Explanation of Mouse and Keyboard Requirements

4.1.2 Information on the FAST System

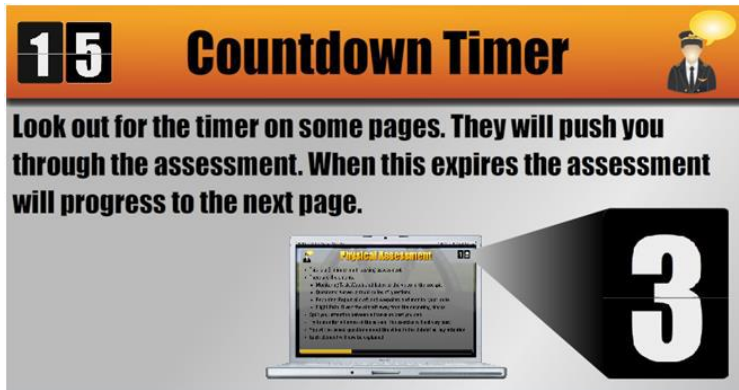


Figure 4-5: Information on Candidate Briefing

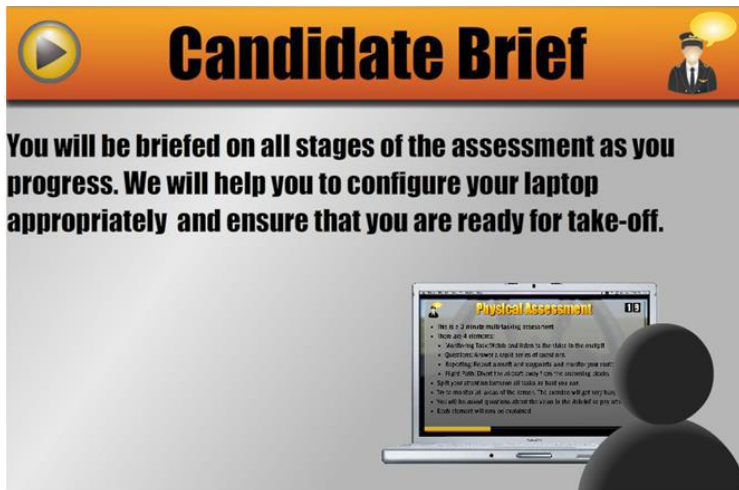
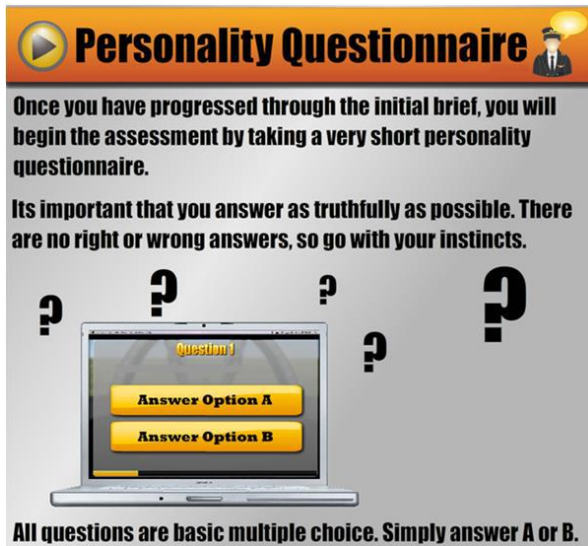


Figure 4-6: Explanation of Countdown Timer

4.1.3 Information on the FAST Assessment



Personality Questionnaire

Once you have progressed through the initial brief, you will begin the assessment by taking a very short personality questionnaire.

Its important that you answer as truthfully as possible. There are no right or wrong answers, so go with your instincts.

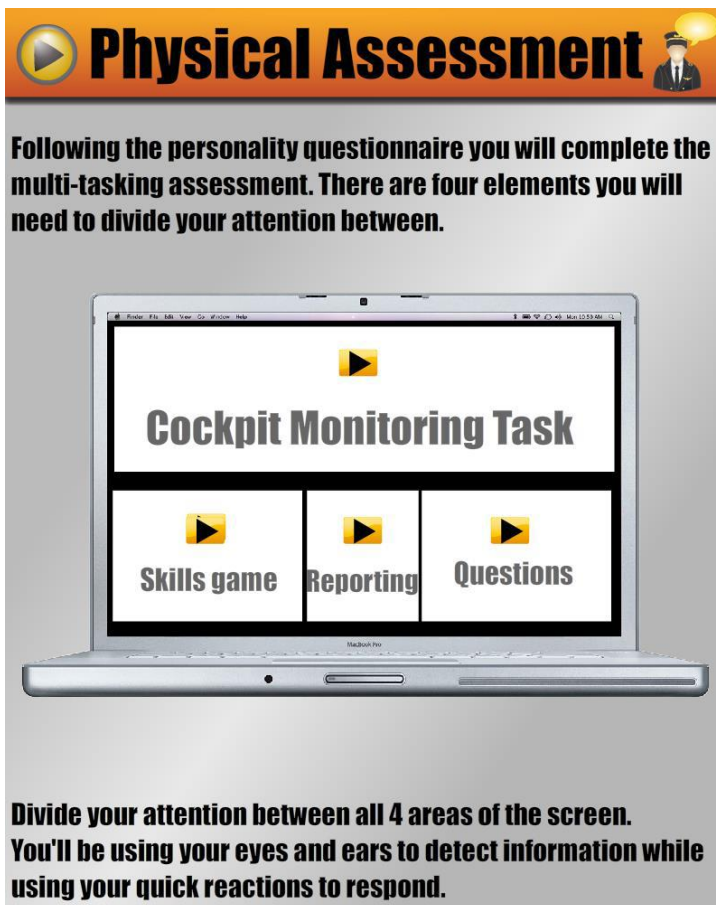
Question 1

Answer Option A

Answer Option B

All questions are basic multiple choice. Simply answer A or B.

Figure 4-7: Explanation of Personality Questionnaire



Physical Assessment

Following the personality questionnaire you will complete the multi-tasking assessment. There are four elements you will need to divide your attention between.

Cockpit Monitoring Task

Skills game Reporting Questions

Divide your attention between all 4 areas of the screen. You'll be using your eyes and ears to detect information while using your quick reactions to respond.

Figure 4-8: Explanation of the Layout of the FAST Assessment



Figure 4-9: Information on Cockpit Monitoring

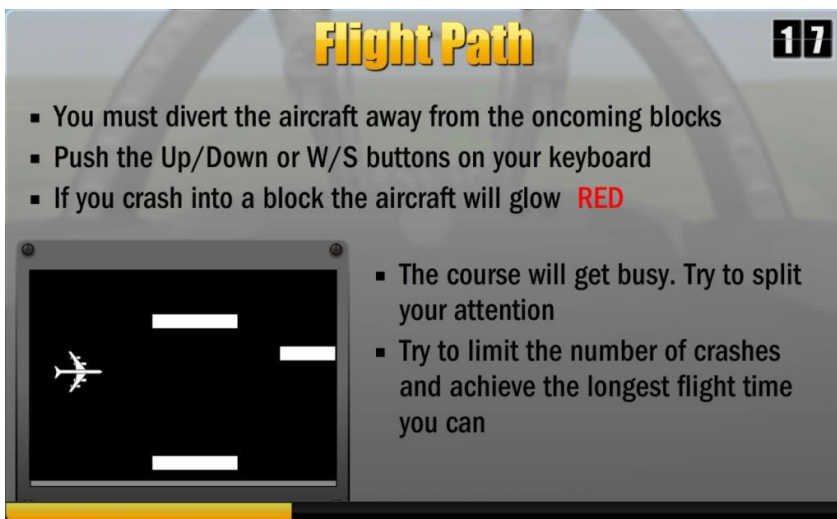


Figure 4-10: Information on Flight Path

Reporting 19

- Watch the video and observe the cockpit display as instruments may activate - You'll need to report on these in the debrief
- Every time you see an aircraft in the video press the **GREEN** button
- The map in the middle screen depicts the route being flown
- Every time you pass over a waypoint press the **RED** button



Figure 4-11: Information on Reporting

Questions 19

- You must answer the questions that appear on this screen
- All questions are multiple choice
- Questions are given either visually, verbally or through a combination
- Answer using your mouse cursor - click the option on the screen
- The questions appear very quickly so you must react Fast!

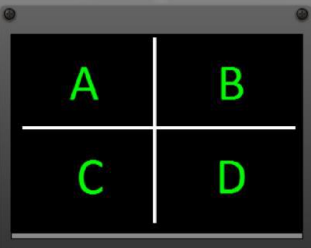


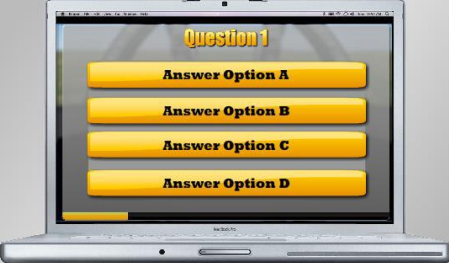


Figure 4-12: Information on Questions

 **Debrief** 

In the final part of the assessment you will be asked questions about what happened during the flight of the Cockpit Monitoring Task

**How much attention were you paying?
Can you recall what you heard and saw?**



**▶ All questions are multiple choice.
Simply answer A , B, C or D.**

▶ There are 12 questions in total

▶ You have 12 seconds to answer each question so you must be quick.

Figure 4-13: Information on Debrief

5. Questionnaire Stage

There is 1 personality questionnaire that must be completed – the ADAPT Personality Questionnaire (APQ). This looks at your personality, values, behaviour and attitude. The questionnaire can either be completed at the test centre, or before/after you attend the test centre. If you are not at the assessment centre you should do the APQ in a comfortable, quiet area with no distractions or interruptions.

5.1 ADAPT Personality Questionnaire (APQ)

This stage has no time limit, but you should try to finish within 30-45 minutes, in 1 attempt.

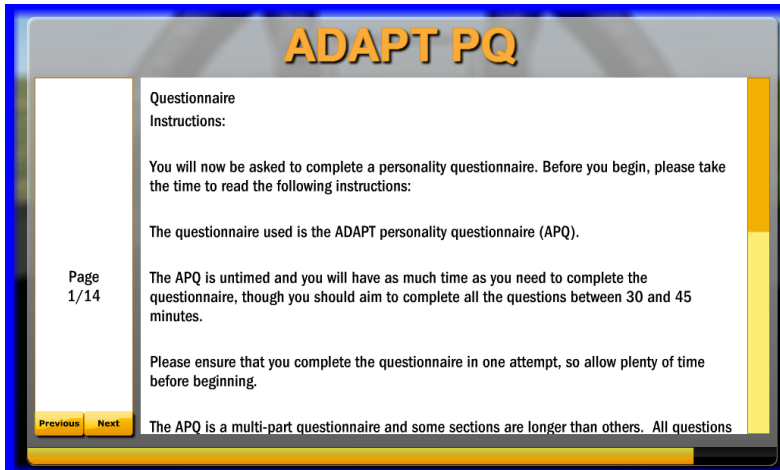


Figure 5-1: APQ Instruction Screen

The questionnaire is split in to 11 sections. The questions will change in length and there are 3 different question types, all of which have 4 multiple choice options:

5.1.1 Question Type 1

Read the question carefully and decide which of the two options most closely describes your opinion or preference - i.e. which option is 'more like me'. Then select the option that most accurately describes how strong this preference is - a moderate preference or a strong preference.

More like me:				More like me:	
EXAMPLE ONE: When choosing a piece of fruit to eat I prefer:					
Apples	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Bananas

Figure 5-2: APQ Question Type 1

5.1.2 Question Type 2

Read the question carefully and then select the option that most accurately describes your opinion or preference – strongly agree, agree, disagree or strongly disagree:

	Strongly Agree	Agree	Disagree	Strongly Disagree
I enjoy theoretical discussions and debates	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Figure 5-3: APQ Question Type 2

5.1.3 Question Type 3

Read the question carefully and then select the one option that most accurately describes your opinion or preference:

1) Written in a manual	<input type="checkbox"/>
2) Delivered verbally	<input type="checkbox"/>
3) Pictorial / Diagram based	<input type="checkbox"/>
4) Demonstrated by someone	<input type="checkbox"/>

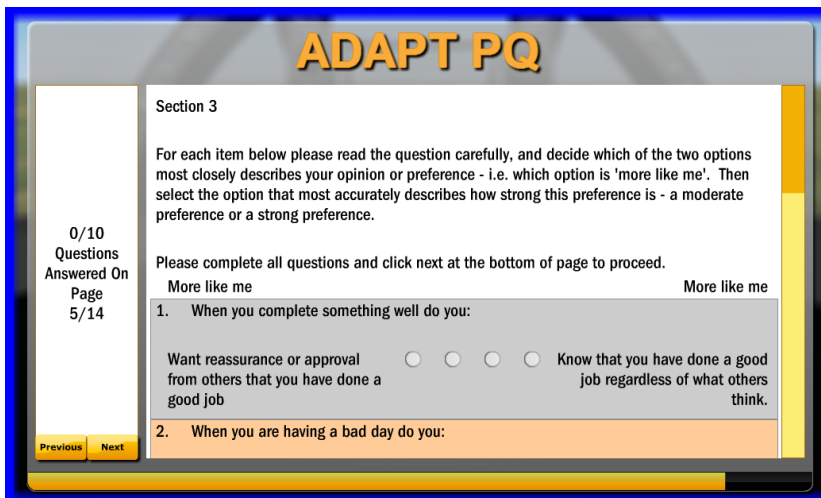
Figure 5-4: APQ Question Type 3

You will answer questions on a range of topics, including your interests, preferences and opinions. There are no right or wrong answers. To assess your personality to the highest standard, we need to get the correct information about you. Therefore, you should be totally honest when answering the questionnaire.

Do not spend too long thinking about each question – your first reaction is usually the best. The information given may not be as detailed as you want, but answer the best you can. Be as honest and truthful as you can. Do not give an answer just because it seems like the right thing to say.

Please ask the assessor or examiner if you do not understand any of the words used in the questions.

An example of the layout of the APQ questions is shown below:



The screenshot shows the ADAPT PQ interface. At the top, it says "ADAPT PQ". Below that, it says "Section 3". The instructions are: "For each item below please read the question carefully, and decide which of the two options most closely describes your opinion or preference - i.e. which option is 'more like me'. Then select the option that most accurately describes how strong this preference is - a moderate preference or a strong preference." Below the instructions, it says "Please complete all questions and click next at the bottom of page to proceed." The question is: "1. When you complete something well do you:". There are two options: "Want reassurance or approval from others that you have done a good job" and "Know that you have done a good job regardless of what others think." There are four radio buttons between the options. The first option is selected. At the bottom, there are "Previous" and "Next" buttons.

Figure 5-5: Example of Question Type 1

Your answers will be saved at the end of each page, so you can come back and carry on with the questionnaire if you get disconnected. You can go back and change any answers once you have pressed 'next'. You need to answer all questions in all sections. You will not be allowed to finish the questionnaire until all the questions are answered. The left hand bar on the screen will show you how many questions are still to be answered on the page and how many pages are left to complete as well as the number of answers required to complete the page.

The 'finish' button will only activate once all questions on all pages have been answered.

6. Finishing the Assessment

When you have finished each of the tests you will see a screen displaying the specific list of tests that you are undertaking, highlighting which ones are complete (demonstrated by ticks before the test name):

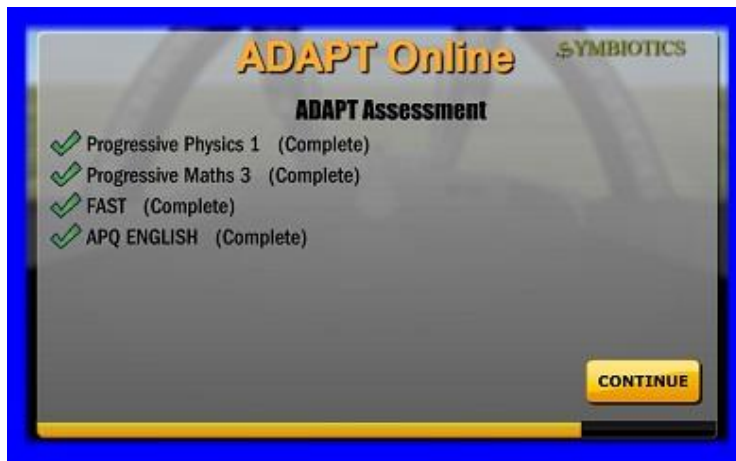


Figure 6-1: Central Screen. Note: all tests have been completed.

Once a number of tests are completed, the option to 'Logout' may appear. This will allow you to exit the assessment and complete any further tests (such as the Personality Questionnaire) at home. If you are required to log out and complete your assessment away from the test centre, you will be informed. When you are ready to complete any outstanding tests, you will need to log into the assessment tool again using the same details as before. This will allow you to access and complete any outstanding tests.

When you have finished all the tests and see this final screen you must click 'continue' not 'logout'. This will upload your results to Symbiotics Ltd. Your results report will be generated and sent to the Academy.