Reading Time

There will usually be 10 minutes of ‘reading’ time at the start of a test, where you are permitted to make notes in various places (as specified in the test instructions). During this time you should make sure you read all of the instructions and test questions carefully. Think about which questions you will do first, and how long you can afford to spend on each question, and make a note of these. Generally, you should firstly attempt the questions that are most straightforward. Additionally, if your test does not permit you to bring notes then this is an ideal time to write down as many formulae and definitions as you can remember, so that you are free to focus on completing the test questions later. Alternatively, if the test does not include reading time then you can do these things at the commencement of the test.

Completing the Test

General Tips

Once the actual test gets underway, start by completing the questions that you identified previously as being the most straightforward, then work your way through the remainder of the questions. If you get stuck on a question at any stage try not to spend too long on it – instead indicate next to the question or at the top of the page that the question is incomplete, as a reminder to yourself to come back to it later if you get time.

Try to double check your answers as you go when possible – but if you are worried about running out of time, leave this to the end. Furthermore, make sure you read each question carefully and provide the required response.

For example, suppose you are required to complete the following question:

*Calculate the difference in the mean ages of the following two groups of students:*

*Group 1: 18, 23, 25, 34, 19, 22, 27, 32, 38, 24*

*Group 2: 42, 27, 33, 51, 55, 43, 28, 34, 43, 25*

To answer this question you would first need to calculate the mean age of each group (26.2 and 38.1 respectively), but then you would need to ensure you stated the difference in the means (11.9) for your final answer, as requested.

Activity: Have a go at Activity 1, on the right-hand side of the page.
Working Out
Always show working out as you may get partial marks for it, even if you are unable to complete the question or if your final answer is not correct. If you don’t have a chance to double-check your answers and you have made an error in your calculations, showing your working out can prevent you from losing all marks for the question.

For example, suppose you are required to complete the following question:

*Determine the mean of 10, 15, 17, 8, 19, 23, 35, 42, 25 and 31*

If you inadvertently enter 13 in your calculator for the last value, and hence obtain a mean of 20.7 (rather than the correct value of 25), then if you simply give this as your answer no marks will be able to be awarded. However if you show working as follows, you may be awarded partial marks for showing that you followed the correct method for calculating the mean even if there was an error in your calculations (again, double-checking where possible is the best way to avoid this). Write your working out for this question as:

\[
10 + 15 + 17 + 8 + 19 + 23 + 35 + 42 + 25 + 31 = 207 \text{ (Note the error in addition).}
\]
\[
\text{Then, } 207 \text{ divided by } 10 = 20.7
\]

This shows that the correct method has been followed, hence partial marks may be awarded.

Rounding
Don’t forget to round as appropriate if providing a numerical answer. Sometimes the accuracy to round to will be stated at the start of the test (for example, ‘Round all answers to 2 decimal places’), whereas other times it will be specified for particular questions or it will be implied (for instance when answering a question that requires you to calculate a number of people you should give a whole number answer, while when answering a question where monetary values have been specified to the nearest cent you should give your answer to the same degree of accuracy).

For example, suppose you are required to complete the following question:

*If an item is originally priced at $59.95, what is the new price of the item after it has been reduced by 20% in a sale?*

Since the original price in the question has been given to two decimal places, you should give your answer to the same degree of accuracy unless stated otherwise such as in the example question, where your answer would be $47.96.
Questions Requiring the Use of a Formula

When answering a question involving the use of a formula, first read the problem carefully to determine the appropriate one to use and then write it down, together with a definition of each of the variables. Refer to your page of notes or to those you wrote at the commencement of the test if necessary. Now read the question again to identify the value of each of the variables in the formula, highlighting or underlining key words and values to help you if required. Finally, substitute these values into the formula and complete the question.

For example, suppose you are required to complete the following question:

The population of a country is growing exponentially, and is estimated to be increasing by a factor of 1.04 each year. If the population of the country today is 15 000 000, then determine the expected population of the country 7 years from now.

The question refers to exponential growth, and hence an exponential growth formula is required. In particular the following formula is required, and you could write it as follows:

\[ y = k \times a^t, \text{ where:} \]
\[ y = \text{variable we are observing over time} \]
\[ k = \text{initial value of the variable} \]
\[ a = \text{amount we multiply the variable} \ y \ \text{by after each time period} \ t \]
\[ t = \text{variable representing time} \]

Reading the question carefully again, you could then pick out the key words and values:

The population of a country is growing exponentially, and is estimated to be increasing by a factor of 1.04 each year. If the population of the country today is 15 000 000, then determine the expected population of the country 7 years from now.

You could then list these values and substitute them into the equation as follows:

\[ y = k \times a^t, \text{ where:} \]
\[ y = \text{value we wish to find (population of the country)} \]
\[ k = 15 000 000 \]
\[ a = 1.04 \]
\[ t = 7 \]

So \[ y = 15 000 000 \times 1.04^7 \]
\[ = 19 738 977 \]

Finally, state your answer in the context of the question. For example:

The expected population of the country 7 years from now is 19 738 977.

Activity: Have a go at Activity 4, and the other activities if you haven’t already.