



**Australian Government**

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**Department of Defence**  
Defence Personnel Executive

# **A Guide to Aptitude and Ability Testing for the Navy, Army and Air Force**

**Defence Force Psychology Organisation**

**and**

**Defence Force Recruiting**

**CANBERRA**

## A GUIDE TO APTITUDE & ABILITY TESTING FOR THE NAVY, ARMY AND AIR FORCE

1. The aim of aptitude and ability testing is to determine the kinds of tasks at which you are best, and to compare these strengths with the requirements of the ADF job for which you are applying. You should attempt to get as many questions correct as possible in the time allowed. Note that all tests include questions that range from the relatively straight forward to others that are quite difficult. Instructions will be read to you before you begin each test. Listen carefully to the instructions, and feel free to ask the test room supervisor questions if you are not sure what to do.

2. Aptitude and ability testing can be administered either by computer, or in paper-and-pencil format. Either way, the test is the same. We hope that most applicants will feel comfortable completing the computer-based versions of the tests. However, any applicant who is not comfortable using computers, and who would prefer to complete the pencil-and-paper tests instead, will be permitted to do so.

### General Ability Test

3. All ADF applicants, including General Entry, Officer Entry, and ADFA, are required to attempt a common General Ability Test. This test provides a measure of your general reasoning and problem solving ability. It contains questions covering arithmetic problems, number series, word meanings and verbal classification, coding tasks, and patterns. Examples of some of these items are given below:

#### Eg 1: Arithmetic Question

Give the number that corresponds with the question mark (?) in the following addition problem:

$$\begin{array}{r} \phantom{+} \phantom{00} 68 \\ + \phantom{00} 7? \\ \hline \phantom{00} 1?2 \end{array} \qquad \text{Answer} = 4$$

#### Eg 2: Arithmetic Question

How many pieces of paper, each costing 20 cents, can you buy for two dollars? **Answer = 10**

#### Eg 3: Number Series

What number comes next in the following series:

$$1, 2, 4, 8, 16, ? \qquad \text{Answer} = 32$$

#### Eg 4: Word Meanings

Which word does not belong in this list:

a. flower   b. whale   c. elephant   d. dog   e. parrot      **Answer = a. flower**

#### Eg 5: Word Meanings

**Empty** is to **full** as **wet** is to ?

a. damp   b. soaked   c. dry   d. water   e. rain      **Answer = c. dry**

### Testing for Officer Entry

4. In addition to the General Ability test described above, applicants for officer entry, including the Australian Defence Force Academy (ADFA), will be asked to write a brief essay. This essay provides the interviewer with an example of your writing skills, as well as some further background information about you.

5. If you are applying for ADFA, you will also need to sit a mathematics test. This test measures your knowledge of higher mathematical concepts, such as algebra, geometry and trigonometry, up to approximately year 12 level. While relevant primarily for those applying for entry into engineering, mathematics and computer science degrees, all ADFA applicants will still need to do this test.

### Testing for Pilot and Navigator/Observer

6. Applicants for ADF Pilot and Navigator / Observer / Airborne Tactician are required to attempt an extensive battery of tests, in addition to the General Ability Test described earlier. These tests measure the following factors:

- a. Ability to visualise aircraft in three dimensional space, based upon both instrument readings and upon verbal descriptions of manoeuvres performed;
- b. Ability to quickly and accurately read and interpret aircraft instrumentation; and
- c. Degree of hand-eye coordination.

7. Pilot and Navigator / Observer applicants are also required to sit a series of computer-administered tests. These are part of a research study aimed at improving Aircrew selection for the ADF.

### Testing for Air Traffic Control and Air Defence (Fighter Control) Officer

8. Applicants for Air Traffic Control (ATC) and Air Defence (AIRDEF) (Fighter Controller) must complete the General Ability Test described earlier, and then progress onto another short battery of tests measuring the following factors:

- a. Ability to visualise aircraft in three dimensional space, based upon verbal descriptions of manoeuvres performed; and
- b. Speed and accuracy in performing mental calculations, and in estimating the answers to mathematical questions, as per the following examples:

(1)  $\frac{1}{4} \times \frac{1}{2} =$                       a. 1.250      b. 0.500      c. 0.125      d. .0125      e. 0.050

**Answer = c. 0.125**

(2) 0.15 x 9.5 is closest in value to:      a. 1.1      b. 1.4      c. 0.95      d. 1.7

**Answer = b. 1.4**

Applicants for ATC and AIRDEF are also required to sit the computerised tests mentioned above.

### Testing for General Entry (Non-Officer) Applicants

9. In addition to the General Ability Test, General Entry (GE) applicants might be required to complete a number of other tests, depending upon the occupations they are applying for.

## Testing for Technical and Other Trades

10. Those of you considering applying for training in the technical or electronic trades might also be required to attempt some more advanced testing. These tests include:

- a. Mechanical Comprehension – this test measures your ability to visualise and manipulate mechanical objects, such as pulleys and levers, in three-dimensional space.
- b. Advanced Mathematics – this test measures your understanding of more advanced mathematical concepts relevant to technical trade training, such as algebra, geometry, and trigonometry, as well as more basic arithmetic (up to approximately year 11 – 12 level). For example,

**Eg 1:** If  $3^x = 81$ , what is the value of  $x$ ?      a. 9            b. 27            c. -4            d. 4

**Answer = d. 4**

**Eg 2:** What is the value of  $.03 \times .50$             a. 0.150      b. 0.015      c. 1.500      d. 0.530

**Answer = b. 0.015**

- c. Electrical and Radio Knowledge – this test measures your understanding of a range of concepts relevant to training in electronic and communications trades.

## Other Specialist Occupations

11. There are a number of other ADF occupations that require applicants to sit various other specialist test batteries. These specialist tests cannot be described in more detail in this Guide, but might include the following: language aptitude; clerical skills; pattern matching; and, reading comprehension.

## CONCLUSION

12. The aptitude and ability testing process described in this guide is designed to give the interviewing psychologist a picture of your aptitudes/ability and underlying knowledge, so that they can assist you in identifying an occupation for which you are best suited. Although some of you might not obtain high enough scores for the occupation you most prefer, most will find that they are suitable for some form of employment within the ADF. All applicants, including those who do not achieve high enough scores for their preferred occupation, but who still wish to serve in the ADF in some capacity, will receive career information from a Defence Recruiter. This will provide you with additional information on your chosen career, or alternatively with assistance in identifying an alternative job for which you might be better suited.