UNITED STATES AIR FORCE

OFFICER QUALIFYING TEST (AFOQT) INFORMATION PAMPHLET

Updated Rated Composites,
Effective February 14, 2013

AFOQT Information Pamphlet

Introduction

The Air Force Officer Qualifying Test measures aptitudes used to select candidates for officer commissioning programs and specific commissioned officer training programs. The AFOQT consists of 12 subtests. Subtest scores are combined to generate composite scores used to help predict success in certain types of Air Force training programs.

Effective February 14, 2013 a new Air Battle Manager (ABM) AFOQT composite will be introduced. Additionally, the AFOQT Pilot and AFOQT Combat Systems Officer (CSO) (previously known as Navigator-Technical) composites will be modified. These changes are being made to optimize prediction of training success in each of these rated career fields, and to accurately norm scores relative to the most recent population of officer candidates.

If you took the AFOQT prior to February 14, 2013, your old scores on the Pilot and CSO (previously Navigator-Technical) composites will expire. However, most rated applicants will *not* be required to re-test (see below for limited exception).

If you have taken the AFOQT Form S (implemented mid-2005), your AFOQT Pilot and CSO composite scores will be re-calculated automatically based on changes in the subtests that contribute to each composite, and changes in the quality of the officer applicant pool. Additionally, your score on the new ABM composite will be calculated automatically. In contrast, if you took an older form of the AFOQT (prior to implementation of Form S), you will need to re-take the AFOQT to be considered for pilot, RPA pilot, CSO, or ABM slots in rated selection boards held after February 2013.

The AFOQT composites and the kinds of knowledge and abilities they measure are described on the page that follows. **The new rated composites effective February 14, 2013 appear in bold.**

1. Pilot. This composite measures some of the knowledge and abilities considered necessary for successful completion of manned and unmanned pilot training. The Pilot composite includes subtests which measure quantitative ability, the ability to determine aircraft attitude from instruments, knowledge of aeronautical concepts, and perceptual speed. This composite is used in combination with the Test of Basic Aviation Skills (TBAS) and flying hours to determine your overall Pilot Candidate Selection Method (PCSM) 2.0 score.

2. Combat Systems Officer (CSO). This composite (previously called Navigator-Technical) measures some of the knowledge and abilities considered necessary for successful completion of CSO training. The CSO composite shares some subtests with the Pilot composite, with the exception that measures of an ability to determine aircraft attitude and knowledge of aeronautical concepts are not included. However, subtests are added measuring verbal aptitude and spatial ability.

3. **Air Battle Manager (ABM). This composite measures some of the knowledge and abilities considered necessary for successful completion of ABM training. The ABM composite shares some subtests with the Pilot composite, including measures of an ability to determine aircraft attitude, knowledge of aeronautical concepts, perceptual speed, and quantitative ability. However, like the CSO composite, subtests are added measuring verbal aptitude and spatial ability.**

4. Academic Aptitude. This composite measures verbal and quantitative knowledge and abilities. The Academic Aptitude composite combines all subtests that make up the Verbal and Quantitative composites.

5. Verbal. This composite measures verbal knowledge and abilities. The Verbal composite has subtests which measure the ability to reason and recognize relationships among words and the ability to understand synonyms.

6. Quantitative. This composite measures quantitative knowledge and abilities. The Quantitative composite shares subtests with the Navigator-Technical composite discussed above and has subtests which measure the ability to understand and reason with arithmetic relationships and to use mathematical terms, formulas, and relationships.

AFOQT subtests and composites (including new rated composites effective February 14, 2013) are shown in Table 1. Table 2 is the testing schedule for the AFOQT Form S.

Table 1. CONSTRUCTION OF AFOQT COMPOSITES

Subtest	Items	**Pilot**	**CSO**	**ABM**	Verbal	Quant
Verbal Analogies	25			**X**	X	
Arithmetic Reasoning	25					X
Word Knowledge	25		**X**		X	
Math Knowledge	25	**X**	**X**	**X**		X
Instrument Comprehension	20	**X**		**X**		
Block Counting	20		**X**	**X**		
Table Reading	40	**X**	**X**	**X**		
Aviation Information	20	**X**		**X**		

Table 2. TESTING SCHEDULE

	Administration Time (In Minutes)	Testing Time (In Minutes)	Total Time (In Minutes)
Pretest Activities	24		24
Verbal Analogies	1	8	9
Arithmetic Reasoning	1	29	30
Word Knowledge	1	5	6
Math Knowledge	1	22	23
Break	10		10
Instrument Comprehension	3	6	9
Block Counting	2	3	5
Table Reading	2	7	9
Aviation Information	1	8	9
General Science	1	10	11
Rotated Blocks	2	13	15
Hidden Figures	2	8	10
Self Description Inventory	1	40	41
Collection of Materials	2		2
TOTAL TIME REQUIRED	54 min	2 hrs 39 min	3 hrs 33 min

What to Expect

When you arrive for test administration, you will be given complete and specific instructions on how to take the test. The number of questions in each of the subtests and the time you will be given to complete each subtest will vary from subtest to subtest. On most of the subtests, you will have more than enough time to answer all the questions. On several subtests, however, you may not finish. Don't worry if this happens, since many people do not finish these subtests. Just work as quickly and accurately as you can.

All of the subtests have multiple-choice questions with four or five possible answers. Each question has only one correct or best answer. If you are not sure of the answer to a question, make a selection anyway, even if you have to guess. Your score on the AFOQT will be based on the number of correct answers you select. You will not lose points or be penalized for guessing.

You will be instructed not to make any marks in your actual test booklet. You will record all of your answers using a pencil on a separate answer sheet that will be scored by a machine. Scratch paper will be provided for you to use when you need to do any calculations.

Before you take some of the subtests, you will have the opportunity to answer some practice questions to be sure that you understand what you are to do on the test. If you are not sure what you are supposed to be doing, ask your test administrator or proctor for help before you start answering the actual test questions. However, test administrators or proctors can only assist you in understanding the directions. They cannot give you guidance concerning test questions and answers or test taking strategy.

It is important that you get a good night's rest before taking the test. You will be asked before you take the test if you are physically able to take the AFOQT. If you do not feel that you are able to take the test at this time, inform the test administrator and you will be scheduled to take the AFOQT at a later date. Be relaxed, follow instructions, read each question carefully, and do the best you can.

How to Use This Pamphlet

This pamphlet is designed to familiarize you with examples of the types of questions you will find on each AFOQT subtest. This pamphlet will not help you "study" for the AFOQT. In fact, because the AFOQT is a test of your general knowledge in a large number of subject areas, there is no "best way" to study for it. The format and style of the questions in this pamphlet are very similar to that of the actual tests, although most items in the AFOQT will prove to be more difficult. Taking these practice subtests will give you an idea of what the real test will be like.

For each question, be sure to pick the best one of the possible answers listed. When you have decided which one of the choices is the best answer, write it on a separate piece of paper. The correct answers to the sample questions in this pamphlet are in the last page of this pamphlet (Table 3). If you have any questions about the AFOQT after reading this pamphlet, please discuss them with your test examiner, recruiter, or detachment personnel.

PART 1. Verbal Analogies

DIRECTIONS: This part of the test measures your ability to reason and see relationships among words. You are to choose the option that best completes the analogy developed at the beginning of each question.

1. **Rural** is to **sparse** as **urban** is to
   1-A noisy.
   1-B crowded.
   1-C hurried.
   1-D suburban.
   1-E suave.

2. **Infancy** is to **childhood** as **engagement** is to
   2-A discussion.
   2-B love.
   2-C bride.
   2-D ring.
   2-E marriage.

3. **Odd** is to **unusual** as **amusing** is to
   3-A humorous.
   3-B sad.
   3-C hilarious.
   3-D flippant.
   3-E commonplace.

4. **Waterfall** is to **cascade** as
   4-A river is to fish.
   4-B ocean is to cross.
   4-C stream is to meander.
   4-D hurricane is to warn.
   4-E lake is to sail.

5. **Cocoon** is to **butterfly** as
   5-A web is to spider.
   5-B den is to lion.
   5-C pouch is to kangaroo.
   5-D covey is to quail.
   5-E cave is to bear.

PART 2. Arithmetic Reasoning

DIRECTIONS: This part of the test measures your ability to use arithmetic to solve problems. Each problem is followed by five possible answers. You are to decide which one of the five choices is most nearly correct.

1. A car traveled at 60 miles per hour for 2½ hours. If one inch equals 20 miles on a map, how far has the car traveled on the map?
   1-A 7.5 inches
   1-B 8.3 inches
   1-C 9.7 inches
   1-D 10.5 inches
   1-E 15.0 inches

2. What is the volume of a container that is 22 feet long, 15 feet wide, and 10 feet high?
   2-A 1369 cu. ft.
   2-B 1500 cu. ft.
   2-C 1650 cu. ft
   2-D 2209 cu. ft.
   2-E 3300 cu. ft.

3. A sport's fan spent a total of $450 on baseball tickets. If only $4 and $5 tickets were bought, and there was an equal number at each price, how many $5 tickets were bought?
   3-A 45
   3-B 50
   3-C 56
   3-D 72
   3-E 90

4. A student spent 2 hours studying, 1 hour doing laundry, and 1 ½ hours watching television. What percentage of time was spent doing laundry?
   4-A 44 percent
   4-B 37 percent
   4-C 33 percent
   4-D 22 percent
   4-E 11 percent

5. If a train can travel 405 miles in 4 ½ hours, how far can it travel in 30 minutes?
   5-A 45 miles
   5-B 53 miles
   5-C 60 miles
   5-D 81 miles
   5-E 90 miles

PART 3. Word Knowledge

DIRECTIONS: This part of the test measures your knowledge of words and their meanings. For each question, you are to choose the word below that is closest in meaning to the capitalized word above.

1. REPLENISH
   - 1-A furnish
   - 1-B provide
   - 1-C refill
   - 1-D stock
   - 1-E refinish

2. PATHETIC
   - 2-A sorrowful
   - 2-B dejected
   - 2-C regretful
   - 2-D pitiful
   - 2-E depressed

3. BLUNDER
   - 3-A err
   - 3-B sneak
   - 3-C omit
   - 3-D confuse
   - 3-E shuffle

4. MEDIATOR
   - 4-A interviewer
   - 4-B meddler
   - 4-C peacemaker
   - 4-D coach
   - 4-E defender

5. LUCIDITY
   - 5-A clarity
   - 5-B brightness
   - 5-C greed
   - 5-D delirium
   - 5-E speed

PART 4. Math Knowledge

DIRECTIONS: This part of the test measures your knowledge of mathematical terms and principles. You are to decide which one of the five choices is correct.

1. $\frac{17}{20} + \frac{6}{100} + \frac{15}{50}$ is equal to

   1-A 43/50
   1-B 111/100
   1-C 121/100
   1-D 83/50
   1-E 289/25

2. If $5v - u = -2$ and $-v + 9u = 18$, then the simultaneous solution of the given equation is:

   2-A $u = 3, v = 9$
   2-B $u = 2, v = 0$
   2-C $u = 1, v = -9$
   2-D $u = -2, v = -36$
   2-E $u = 3, v = -15$

3. Which of the following statements is false? A triangle can have

   3-A three equal angles.
   3-B one obtuse angle.
   3-C three equal sides.
   3-D two right angles.
   3-E three acute angles.

4. The value $-1/9\ \sqrt{81}$ is equal to

   4-A 0
   4-B – 1
   4-C 1
   4-D – 9
   4-E 9

5. The factors of $30x^2 - 30$ are

   5-A $(5x - 6), (6x + 5)$
   5-B $(15x + 5), (2x - 6)$
   5-C $(5x - 6), (6x - 5)$
   5-D $(30x - 5), (x + 6)$
   5-E $(5x + 5), (6x - 6)$

PART 5. Instrument Comprehension

DIRECTIONS: This part of the test measures your ability to determine the position of an airplane in flight from reading instruments showing its compass heading, amount of climb or dive, and degree of bank to right or left. In each problem the left-hand dial is labeled ARTIFICIAL HORIZON. On the face of the dial, the small aircraft fuselage silhouette remains stationary, while the positions of the heavy black line and the black pointer vary with changes in the position of the airplane in which the instrument is located.

The heavy black line represents the HORIZON LINE. The black pointer shows the degree of BANK to the right or left.

If the airplane is neither climbing nor diving, the horizon line is directly on the fuselage silhouette, as in dial 1 below.

If the airplane is climbing, the fuselage silhouette is seen between the horizon line and the pointer, as in dial 2 below. The greater the amount of climb, the greater the distance between the horizon line and the fuselage silhouette.

If the airplane is diving, the horizon line is seen between the fuselage silhouette and the pointer, as in dial 3 below. The greater the amount of dive, the greater the distance between the horizon line and the fuselage silhouette.

Dial 1 **Dial 2** **Dial 3**

If the airplane has no bank, the black pointer is seen to point to zero, as in dial 1 above.

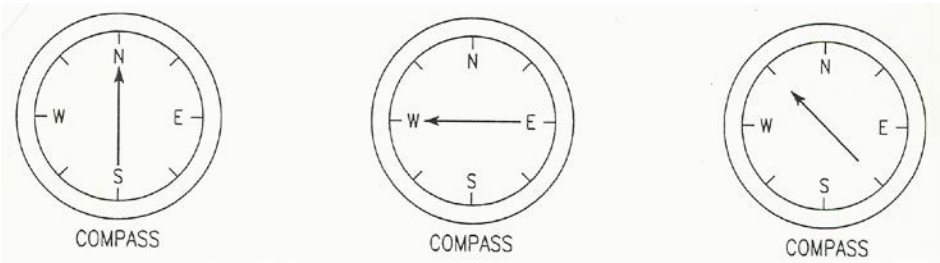
If the airplane is banked to the pilot's right, the pointer is seen to the left of zero, as in dial 2 above.

If the airplane is banked to the pilot's left, the pointer is seen to the right of zero, as in dial 3 above.

The HORIZON LINE tilts as the aircraft is banked and is always at right angles to the pointer.

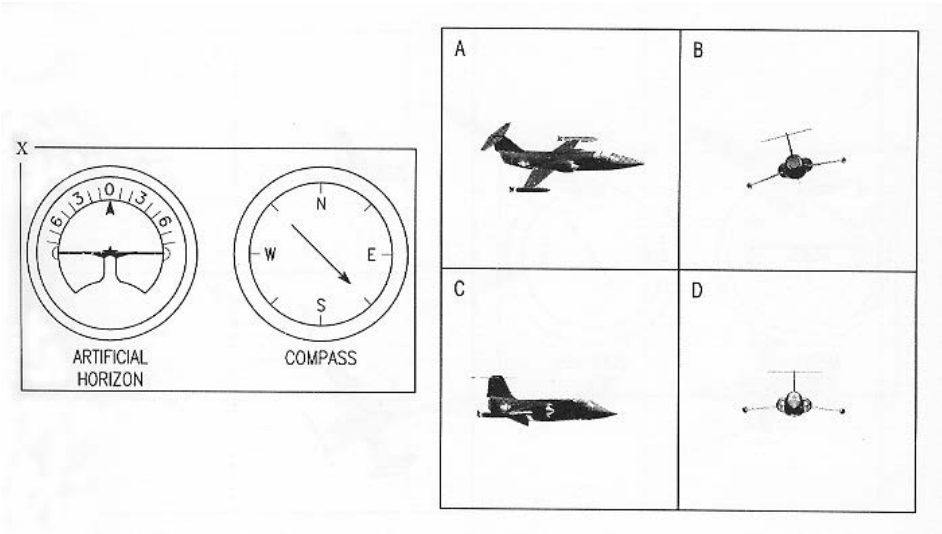
Dial 1 above shows an airplane neither climbing nor diving, with no bank.
Dial 2 above shows an airplane climbing and banked 45° to the pilot's right.
Dial 3 above shows an airplane diving and banked 45° to the pilot's left.

In each problem the right-hand dial is labeled COMPASS. On this dial, the arrow shows the compass direction in which the airplane is headed. Dial 4 shows the airplane headed north, dial 5 shows it headed west, and dial 6 shows it headed northwest.



Dial 4 **Dial 5** **Dial 6**

Each problem consists of two dials and four silhouettes of airplanes in flight. Your task is to determine which one of the four airplanes is MOST NEARLY in the position indicated by the two dials. YOU ARE ALWAYS LOOKING NORTH AT THE SAME ALTITUDE AS EACH OF THE FOUR AIRPLANES. EAST IS ALWAYS TO YOUR RIGHT AS YOU LOOK AT THE PAGE. In sample question X, the dial labeled ARTIFICIAL HORIZON shows that the airplane is NOT banked, and is neither climbing nor diving. The COMPASS shows that it is headed southeast. The only one of the four airplane silhouettes that meets these specifications is in the box lettered C; so, the answer to sample question X is C. Note that B is a rear view, whereas D is a front view. Note also that A is banked to the right and that B is banked to the left.



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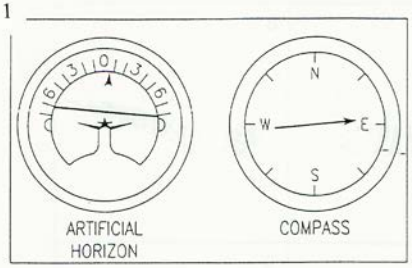
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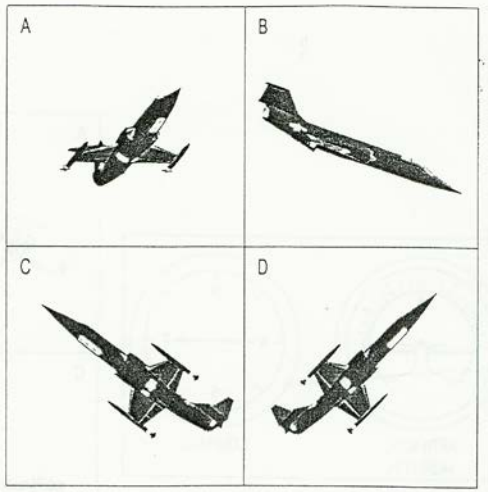
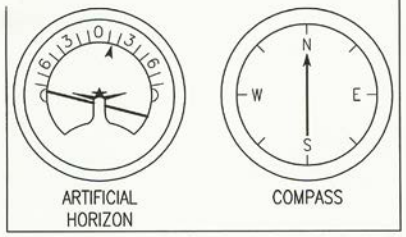

A
B
C
D

2


ARTIFICIAL HORIZON
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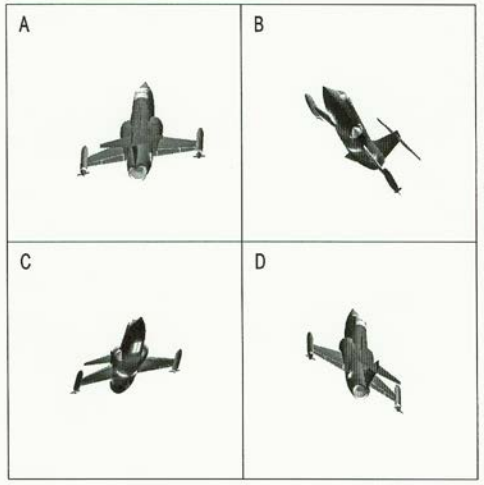
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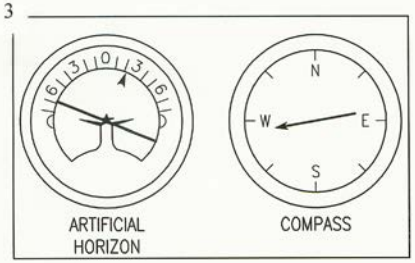
3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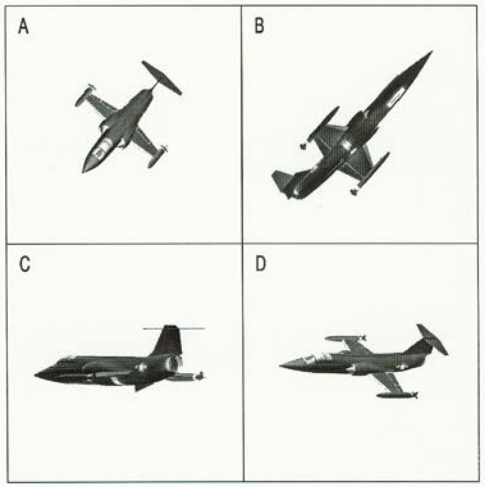
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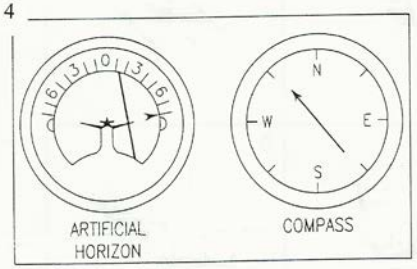
ARTIFICIAL
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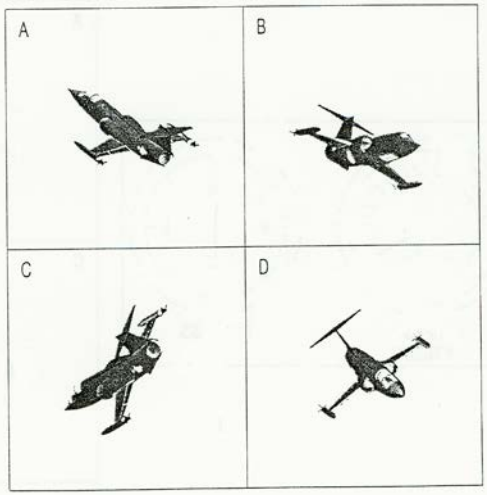
A
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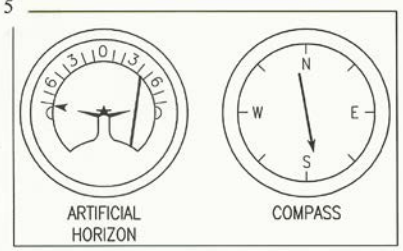
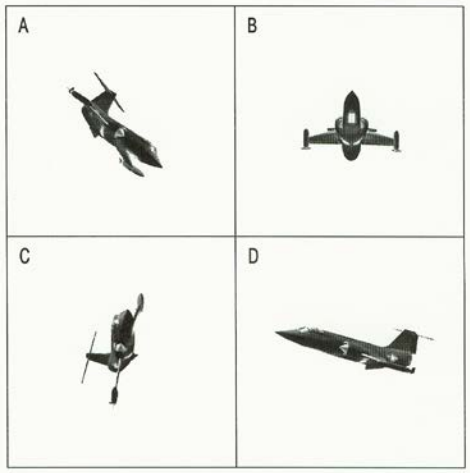
C
D

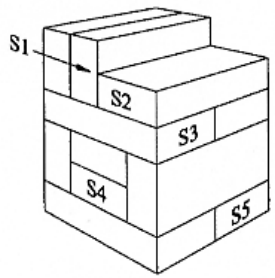
5





PART 6. Block Counting

DIRECTIONS: This part of the test measures your ability to "see into" a 3-dimensional pile of blocks. Given a certain numbered block, your task is to determine how many other blocks it touches. *All of the blocks in each pile are the same size and shape*. Look at sample questions S1 through S5 below.



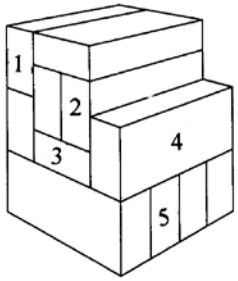
KEY					
Block	A	B	C	D	E
S1	1	2	3	4	5
S2	3	4	5	6	7
S3	5	6	7	8	9
S4	2	3	4	5	6
S5	2	3	4	5	6

Block S1 touches the other two top blocks and the two blocks directly below it. Therefore, the total number of blocks touched by S1 is 4. For sample question S1, 4 is choice D in the key to the right.

Block S2 touches blocks S1 and S3 and the unlettered block to the right of block S3. Because block S2 touches three other blocks, the answer is 3. According to the key, 3 is choice A for sample question S2.

Now look at sample question S3. Block S3 touches three blocks above, three blocks below, and one block on the right. Therefore, the correct answer is 7; so, C is the correct choice for sample question S3.

Now count the blocks touching blocks S4 and S5. For block S4, the correct answer is 5; so, D would be the correct choice. For block S5, the correct answer is 4; so, C would be the correct choice.



KEY					
Block	A	B	C	D	E
1	1	2	3	4	5
2	4	5	6	7	8
3	5	6	7	8	9
4	2	3	4	5	6
5	2	3	4	5	6

PART 7. Table Reading

DIRECTIONS: This part of the test measures your ability to read a table quickly and accurately. Look at the table below. Notice that the X values appear at the top of the table and the Y values are shown on the left side of the table. The X values are the column values. The Y values are the row values. For each test question, you are given an X value and a Y value. Your task will be to find the box where the column and row intersect, note the number that appears there, and then find this number among the five answer options.

X VALUE

Y VALUE	-3	-2	-1	0	+1	+2	+3
+3	25	26	28	30	31	32	33
+2	26	28	30	32	33	34	35
+1	27	29	31	33	35	36	37
0	29	30	32	34	36	37	38
-1	30	32	33	35	37	38	40
-2	31	33	34	36	38	39	41
-3	32	34	35	37	39	40	42

	X	**Y**	**A**	**B**	**C**	**D**	**E**
1.	+1	+2	35	36	30	33	34
2.	0	-3	29	37	39	30	36
3.	-2	+3	26	32	34	28	40
4.	-1	0	33	30	35	36	32
5.	+3	-1	41	27	40	38	39

PART 8. Aviation Information

DIRECTIONS: This part of the test measures your knowledge of aviation. Each of the questions or incomplete statements is followed by five choices. You are to decide which one of the choices best answers the question or completes the statement.

1. The rearward retarding force of airplane drag is opposed by
   1-A weight.
   1-B lift.
   1-C thrust.
   1-D tension.
   1-E compression.

2. The cowling is located
   2-A on the landing gear.
   2-B around the engine.
   2-C close to the tail.
   2-D on the wing.
   2-E inside the fuselage.

3. Airport taxiways are identified at night by omnidirectional edge lights. What color are the lights?
   3-A white
   3-B amber
   3-C alternate red and green
   3-D green
   3-E blue

4. If the aircraft ammeter is indicating a minus value, this means the
   4-A generator or alternator output is inadequate.
   4-B electrical system is functioning normally.
   4-C battery should be turned off.
   4-D battery is adequately charged.
   4-E battery requires water.

5. The angle formed by the chord of an airfoil and the direction of the relative wind is called the
   5-A angle of incidence.
   5-B angle of attack.
   5-C stall angle of the wing.
   5-D pitch angle.
   5-E critical angle of attack.

PART 9. General Science

DIRECTIONS: This part of the test measures your knowledge in the area of science. Each of the questions or incomplete statements is followed by five choices. You are to decide which one of the choices best answers the question or completes the statement.

1. In the International System of Units, a measurement for mass is
   - 1-A a meter.
   - 1-B a henry.
   - 1-C an ampere.
   - 1-D a kilometer.
   - 1-E a kilogram.

2. What is energy called that is derived from Earth's internal heat?
   - 2-A Hydroelectric
   - 2-B Solar
   - 2-C Thermodynamic
   - 2-D Volcanic
   - 2-E Geothermal

3. Compounds that include fat and oils found in foods and the human body are
   - 3-A proteins.
   - 3-B lipids.
   - 3-C vitamins.
   - 3-D minerals.
   - 3-E carbohydrates.

4. Resistance is the tendency for a material to oppose the flow of electrons and is measured in
   - 4-A currents.
   - 4-B amperes.
   - 4-C ohms.
   - 4-D watts.
   - 4-E volts.

5. In order for a lunar eclipse to take place, the
   - 5-A moon must be between the sun and the Earth.
   - 5-B moon must be in early crescent phase.
   - 5-C Earth must be between the sun and the moon.
   - 5-D Earth's axis of rotation must point toward the moon.
   - 5-E Earth and moon must be on opposite sides of the sun.

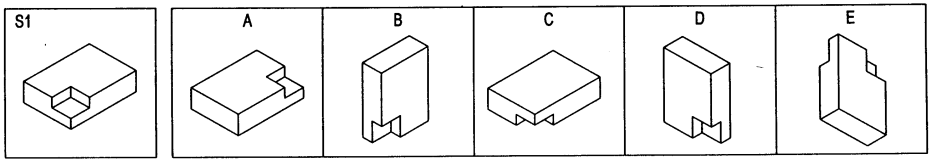
PART 10. Rotated Blocks

DIRECTIONS: This part of the test measures your ability to visualize and manipulate objects in space. In each problem you are shown a picture of a block. Your task is to find a second block which is like the first.

Look at the two blocks below. Although they are in different positions, the blocks are exactly alike.

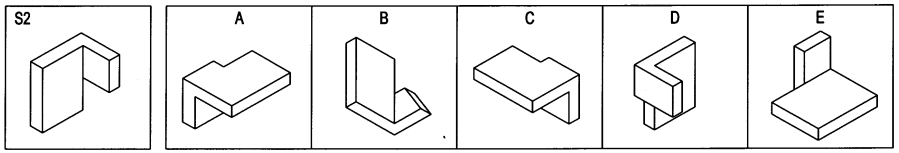
Look at the two blocks below. They are not alike. They can never be turned in such a way that they will be alike.

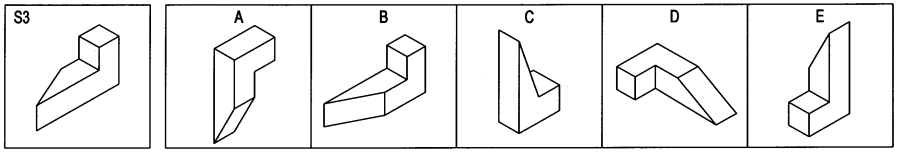
Now look at sample question S1 below. Which of the five choices is just like the first block?



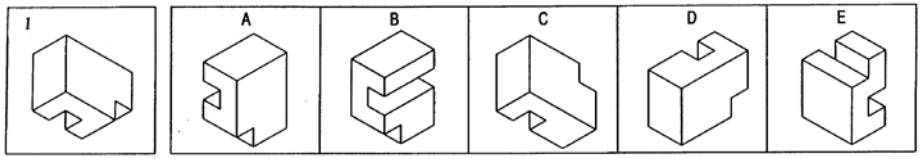
The correct answer is D. It is the same block placed in a different position.

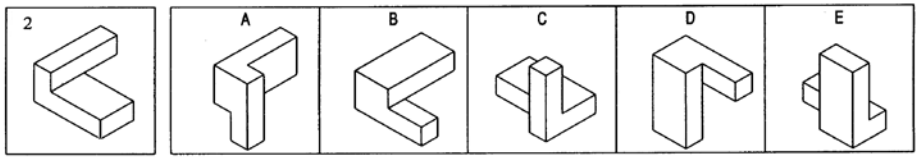
Now look at sample questions S2 and S3 below.

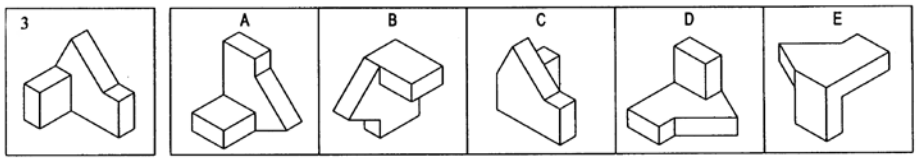


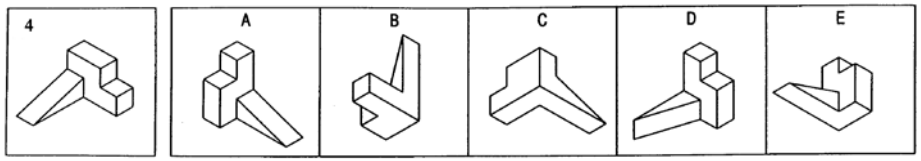


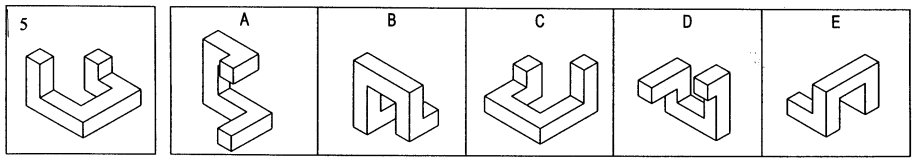
The correct answer for S2 is C. The correct answer for S3 is A.


1
A
B
C
D
E


2
A
B
C
D
E


3
A
B
C
D
E

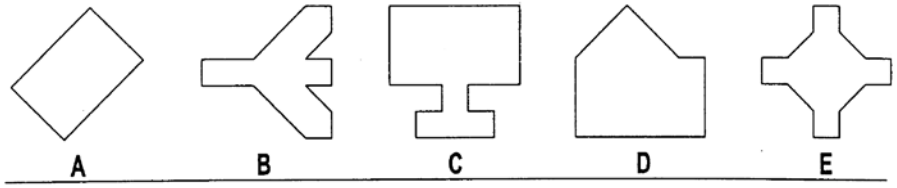

4
A
B
C
D
E


5
A
B
C
D
E

PART 11. Hidden Figures

DIRECTIONS: This part of the test measures your ability to see a simple figure in a complex drawing. At the top of each page are five lettered figures. Below these on each page are several numbered drawings. You are to determine which lettered figure is contained in each of the numbered drawings.

The lettered figures are:



The numbered drawings are similar to drawing X below. Which one of the five figures is contained in drawing X?

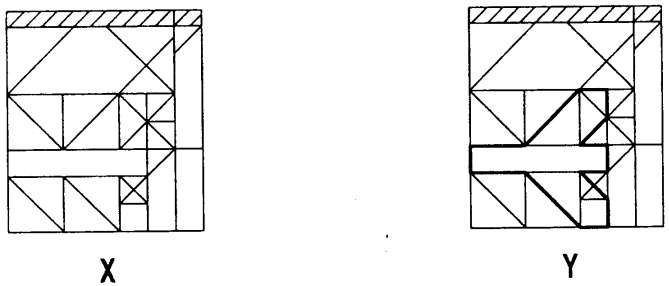
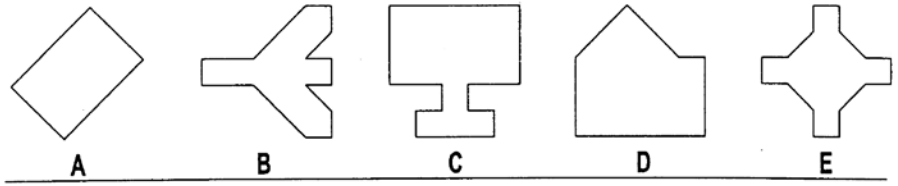
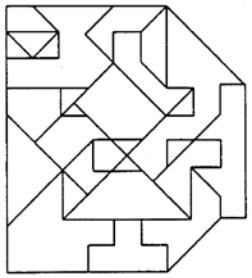


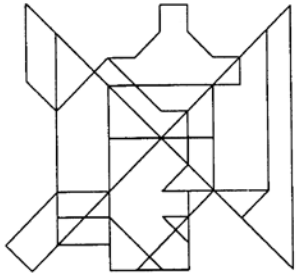
Figure B is contained in drawing X. Thus, B is the answer to sample question X. Drawing Y is exactly like drawing X except that the outline of figure B has been darkened to show that *all* of figure B appears in the drawing. Notice that the figure is the same size and in the same position as it appears at the top of the page. Therefore, you do not need to rotate the page in order to find the figure. Look at each numbered drawing and decide which one of the lettered figures is contained in it.



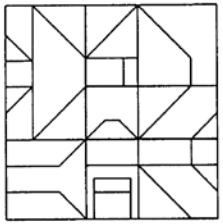
1



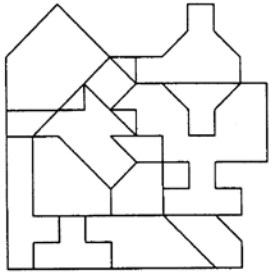
4



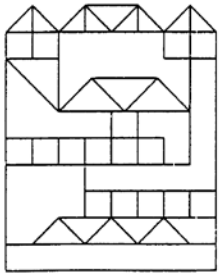
2



5



3



Part 12. Self Description Inventory

DIRECTIONS: This inventory measures personal traits and attitudes. The inventory consists of a list of statements. The task is to read each statement carefully and decide how well each one describes you.

Look at the sample statement below:

S1. I enjoy reading poetry.

Decide if statement S1 is characteristic of you and indicate your agreement using the scale below.

A	B	C	D	E
Strongly Disagree	Moderately Disagree	Neither Agree nor Disagree	Moderately Agree	Strongly Agree

If you strongly agree that the statement describes you, select response E on the scale. If you strongly disagree, select response A on the scale. You would select B, C, or D to indicate other levels of agreement.

You should work quickly but reply to all statements. Give your first impression about how well each statement describes you by comparing yourself to people in your same sex and age group. Don't spend a long time deciding what your answer should be. There is no right or wrong answer to each statement. Answer all statements, even if you're not sure of your answer.

The 10 statements below are representative of the types of statements in the inventory.

1. I always try to finish what I start.
2. I generally get along well with most people.
3. I get nervous if I have to speak in public.
4. People often get upset with me for now showing up on time.
5. I like to listen to many different kinds of music.
6. Usually I let my work goals take priority over my personal interests.
7. I am not comfortable supervising others.
8. I am pleased when friends drop in to see me.
9. I don’t like to be involved in group activities.
10. I have higher work standards than do most people.

Table 3. ANSWERS TO SAMPLE QUESTIONS

Verbal Analogies
1. B
2. E
3. A
4. C
5. C

Arithmetic Reasoning
1. A
2. E
3. B
4. D
5. A

Word Knowledge
1. C
2. D
3. A
4. C
5. A

Math Knowledge
1. C
2. B
3. D
4. B
5. E

Instrument Comprehension
1. B
2. A
3. D
4. C
5. C

Block Counting
1. C
2. A
3. D
4. E
5. D

Table Reading
1. D
2. B
3. A
4. E
5. C

Aviation Information
1. C
2. B
3. E
4. A
5. B

General Science
1. E
2. E
3. B
4. C
5. C

Rotated Blocks
1. A
2. B
3. D
4. C
5. B

Hidden Figures
1. A
2. B
3. C
4. B
5. D

Self Description Inventory

NOTE: There are no right or wrong answers for these items.