

QUESTIONS ON SECTION A

51. According to the above statement, the vibrations of a mechanical system which has a natural period of vibration
- () 1. are opposite in phase to that of a periodically applied force
 - () 2. gradually die away unless the time relationship of an applied force is periodically reversed
 - () 3. momentarily stop in transition from one phase to an opposite phase
 - () 4. require no outside force to set it vibrating

101. 1 side of a section = 1 mile
1 section = 640 acres
1 side of 40 acres (a square) =

- () 1. $\frac{1}{8}$ mile
- () 2. $\frac{1}{4}$ mile
- () 3. $\frac{1}{2}$ mile
- () 4. $\frac{3}{4}$ mile

105. What is the fallacy in the following syllogism?
Some teachers are science teachers.
My teacher is a science teacher.
Therefore, my teacher is some teacher.

- () 1. Erroneous major premise
- () 2. Erroneous minor premise
- () 3. Inductive reasoning
- () 4. Inconsistent use of words

108. Each statement in Column I is a definition. Among the terms in Column II are those defined in Column I. For each definition in Column I put the number of its term (from Column II) in the parentheses.

- | COLUMN I | COLUMN II |
|---|---------------|
| () 1. A line along which warm air has been lifted from the earth's surface by opposing wedges of cold air. | 1. cold front |
| | 2. high |

QUESTIONS ON SECTION F

70. Which of the following conclusions can properly be made on the basis of the paragraph?
- () 1. All elements have radioactive and stable isotopes.
 - () 2. Chemical analysis of a chemical process is sometimes not so revealing as radioactive isotopic analysis.
 - () 3. None of the other three conclusions given here can properly be concluded on the basis of the information given.
 - () 4. The most important use of tracer isotopes is in the treatment of disease in man.

72. The statement that some radioactive isotopes of elements may be unstable is

- () 1. contrary to the paragraph
- () 2. made in the paragraph
- () 3. neither made nor implied in the paragraph
- () 4. not made, but implied in the paragraph

- () 2. A line between advancing cold air and a mass of warmer air. 3. isobar
- () 3. A line between advancing warmer air and a mass of colder air. 4. low
- () 4. A line connecting localities which report the same barometer readings. 5. occluded front
- () 5. An area where the barometric pressure is above normal. 6. warm front

111. Fill in the missing words:

The characteristic property of the atomic nucleus is that it has a _____ charge, which determines the atomic _____ of the atom.

PART C

You may start the test and then not finish. Or you may take one look at it and decide that it is too tough for you. That is your privilege, just as it was the privilege of the high school seniors. No one made the high school seniors take it. They could walk out on it—and many of them did, thus withdrawing from the competition.

Making the test especially difficult eliminates the persons who do not have the perseverance to finish a job. This ability to finish what is started is a prime requisite for solving scientific problems, whether they be in atomic energy, bacteriological research, industrial technology or in everyday life. Sometimes those who quit have reasoning ability, but it is not doing them any good unless they use it.

Your answers may show that you have hidden abilities in the field of science. However, if your score is not high, do not be disappointed, for very few people are gifted with the abilities necessary for creative scientific research.

And if you do well on this sample, it does not mean that you should quit what you are doing and become a scientist. To be a professional scientist requires many years of study and preparation as well as native ability. The test has merely revealed that you have a certain amount of this

native ability, and there are many situations in your everyday life that require this kind of ability.

Ready now to test yourself? There are three kinds of questions. Answer all questions in Part A by putting an X in the number of the answer that is most nearly correct. In the case of Part B, first read each paragraph and then choose the answer that is most nearly correct on the basis of the information given in the paragraph. In Part C, either pick the correct answer or fill in the missing words.

After you have completed the test, score yourself, using the answers printed on page 76.

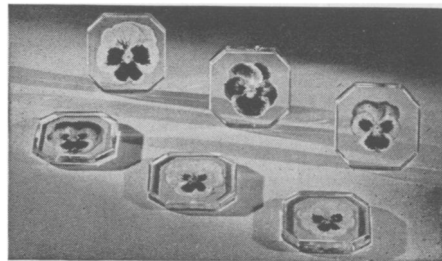
Having taken the test yourself you can appreciate the abilities of the boys and girls, 15 to 18 years old, who win honors in the nationwide search. The 40 top winners will arrive in Washington, D. C., March 1, to attend the annual Science Talent Institute.

They will meet leading scientists during their five-day stay. An additional 260 contestants are being given honorable mention and recommended to colleges, universities and technical schools as potential top-notch scientists of the future. In 23 states, further awards and scholarships are being awarded to state winners.

The science aptitude test is only one of

the methods used in selecting the boys and girls who are scientifically gifted. In addition, each contestant filled out a personal data blank and wrote a report describing some scientific project he has done or wishes to do. Teachers filled out a recommendation form and principals reported on scholarship of the contestants.

The science aptitude test was compiled by two of the Science Talent Search judges, Dr. Harold A. Edgerton, vice-president, Richardson, Bellows, Henry & Co., New



REAL PANSY COASTERS

These attractive coasters were made by embedding real pansies in Castolite, a new liquid casting plastic. With it students embed real flowers, butterflies, shells, photos, medals, etc. to make unusual jewelry, buttons, coasters, plaques, tiles, book ends, trays, other distinctive objects. Successfully used by hundreds of schools and colleges. Write for new FREE folder "Liquid Magic" showing things students can make. Many practical ideas. The Castolite Company, Dept. B-50, Woodstock, Ill.