

Revised programmer aptitude test

J. L. Hughes and W. J. McNamara

Directions

1. Do not make any marks in this booklet.

2. On the separate answer sheet,

print your name, date and other requested

information in the proper spaces.

3. Then wait for further instructions.

Do not open this booklet until you are told to do so

INSTRUCTIONS FOR PART I

The numbers in each series below follow a certain rule. For each series of numbers you are to find the correct rule and complete the series. One of the numbers at the right side of the page is the correct answer.

W.	3	6	9	12	15	18	(a) 19	(b) 20	(c) 21	(d) 22	(e) 23
----	---	---	---	----	----	----	-----------	-----------	-----------	-----------	-----------

In example W above, each number is three larger than the preceding number. Therefore, to complete the series, choice (c) has been indicated on the answer sheet because number 21 is the next number in the series.

X.	20	18	16	14	12	10	(a) 6	(b) 8	(c) 10	(d) 12	(e) 14
----	----	----	----	----	----	----	----------	----------	-----------	-----------	-----------

In series X above, each number is two less than the preceding number. Accordingly the correct answer is 8, choice (b), which has been indicated on the answer sheet.

Now do example Y below and indicate the correct answer on your answer sheet.

Y.	10	11	13	14	16	17	(a) 18	(b) 19	(c) 20	(d) 21	(e) 22
----	----	----	----	----	----	----	-----------	-----------	-----------	-----------	-----------

In example Y, the correct rule is add 1 then add 2, add 1 then add 2, etc. Therefore, the correct answer is 19, choice (b).

Now do example Z and indicate your answer on the answer sheet.

Z.	4	6	9	13	18	24	(a) 27	(b) 28	(c) 29	(d) 30	(e) 31
----	---	---	---	----	----	----	-----------	-----------	-----------	-----------	-----------

The rule is add 2, then add 3, then add 4, etc. Therefore, the correct answer is 31, choice (e).

When you are told to begin, turn the page immediately and begin to work. When you finish the first page go on to the second page. You will be allowed 10 minutes.

DO NOT TURN THIS PAGE UNTIL YOU ARE TOLD TO BEGIN

PART I

Find the rule in each series and indicate the choice which completes the series.

(1)	19	23	27	31	35	39	(a) 41	(b) 42	(c) 43	(d) 44	(e) 45
(2)	3	4	5	3	4	5	(a) 2	(b) 3	(c) 4	(d) 5	(e) 6
(3)	53	58	54	59	55	60	(a) 55	(b) 56	(c) 57	(d) 64	(e) 65
(4)	11	14	18	23	29	36	(a) 42	(b) 43	(c) 44	(d) 45	(e) 46
(5)	23	19	24	18	25	17	(a) 8	(b) 10	(c) 16	(d) 17	(e) 26
(6)	27	25	28	25	29	25	(a) 20	(b) 21	(c) 29	(d) 30	(e) 31
(7)	4	11	16	19	26	31	(a) 33	(b) 34	(c) 35	(d) 36	(e) 38
(8)	7	13	22	28	37	43	(a) 49	(b) 50	(c) 51	(d) 52	(e) 53
(9)	13	17	21	25	22	19	(a) 13	(b) 15	(c) 16	(d) 17	(e) 22
(10)	36	12	24	24	8	16	(a) 8	(b) 16	(c) 24	(d) 32	(e) 48
(11)	53	55	58	62	67	69	(a) 70	(b) 71	(c) 72	(d) 73	(e) 74
(12)	1	4	2	8	4	16	(a) 4	(b) 8	(c) 12	(d) 32	(e) 64
(13)	12	14	19	26	28	33	(a) 37	(b) 38	(c) 39	(d) 40	(e) 41

PART I (Cont'd)

(14)	50	25	30	15	20	10	(a) 5	(b) 10	(c) 15	(d) 20	(e) 25
(15)	21	19	16	20	25	19	(a) 12	(b) 13	(c) 23	(d) 26	(e) 27
(16)	15	12	9	18	15	12	(a) 6	(b) 15	(c) 18	(d) 24	(e) 36
(17)	6	10	7	14	14	18	(a) 14	(b) 15	(c) 16	(d) 18	(e) 21
(18)	62	64	67	71	67	62	(a) 56	(b) 57	(c) 58	(d) 66	(e) 68
(19)	80	40	44	22	28	14	(a) 7	(b) 20	(c) 21	(d) 22	(e) 23
(20)	6	3	6	7	4	8	(a) 5	(b) 6	(c) 7	(d) 9	(e) 10
(21)	8	5	15	18	6	3	(a) 0	(b) 1	(c) 3	(d) 6	(e) 9
(22)	18	17	20	15	14	17	(a) 12	(b) 14	(c) 16	(d) 20	(e) 22
(23)	3	1	2	4	2	4	(a) 1	(b) 2	(c) 4	(d) 5	(e) 6
(24)	6	5	7	4	2	6	(a) 0	(b) 2	(c) 4	(d) 8	(e) 10
(25)	18	18	36	12	3	15	(a) 30	(b) 45	(c) 60	(d) 75	(e) 90
(26)	2	3	3	5	10	13	(a) 13	(b) 16	(c) 17	(d) 26	(e) 39

INSTRUCTIONS FOR PART II

On the next four pages you will be given some problems like those on this page. Each row is a problem in which A is related to B in some way. You are to find the rule by which A is changed to make B. Then use the same rule to find how C should be changed. One of the numbered figures at the right side of the page is the correct answer.

W.



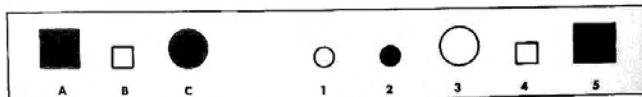
In Example W above, A is a small black square and when it is changed by the rule "make it larger," we have B. Now look at C. It is a small black circle and when it is changed by the rule "make it larger," the correct answer is Figure 2, which is indicated on your answer sheet.

X.



In Example X, the rule is "turn A upside down to make B." Now look at C. If you change it by the same rule it will look like 4, which has been marked as the correct answer.

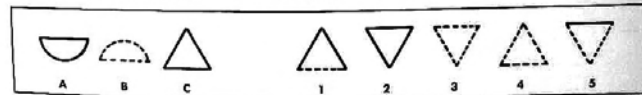
Y.



In Example Y above, the rule has two parts, "make A smaller and the opposite color." Apply the rule to C and indicate the correct answer on your answer sheet.

Now do Example Z below and indicate your answer on the answer sheet.

Z.



When you are told to begin, turn the page immediately and begin to work. When you finish one page, go on to the next. You will be allowed 20 minutes.

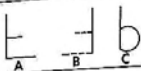
DO NOT TURN THIS PAGE UNTIL YOU ARE TOLD TO BEGIN

PART II

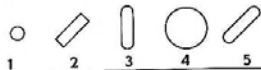
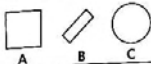
1.



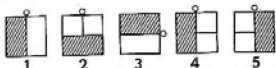
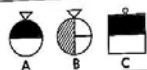
2.



3.



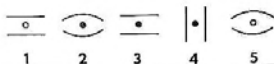
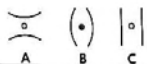
4.



5.



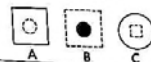
6.



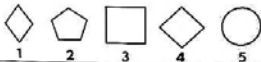
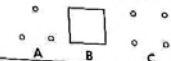
7.



8.



9.

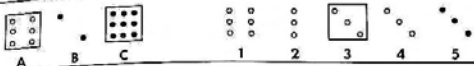


10.

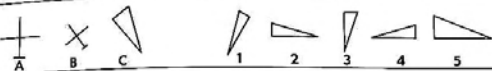


PART II (Cont'd)

11.



12.



13.



14.



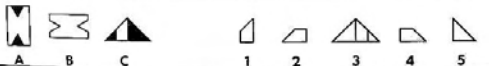
15.



16.



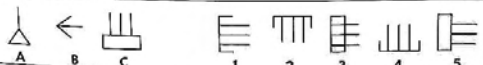
17.



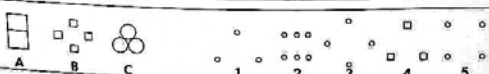
18.



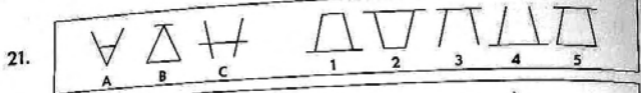
19.

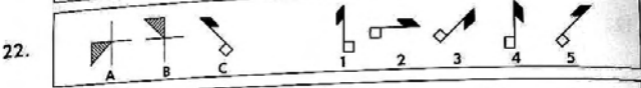


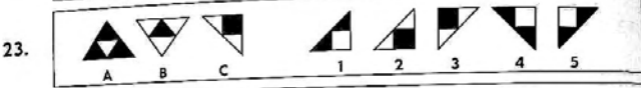
20.

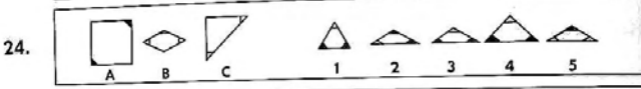


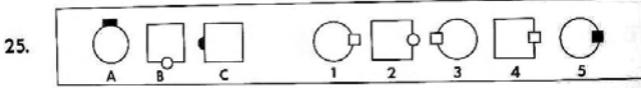
PART II (Cont'd)

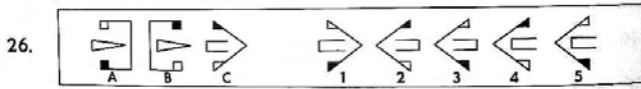
21. 

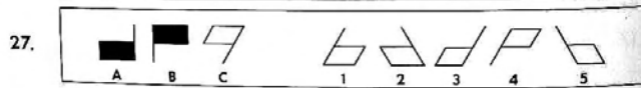
22. 

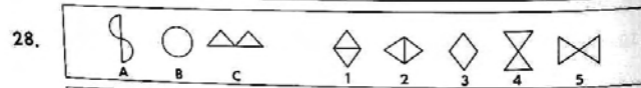
23. 

24. 

25. 

26. 

27. 

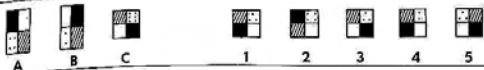
28. 

29. 

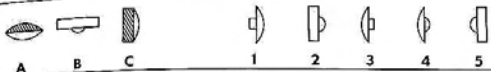
30. 

PART II (Cont'd)

31.



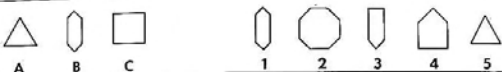
32.



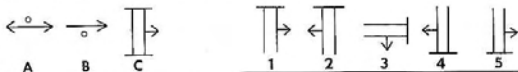
33.



34.



35.



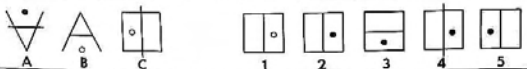
36.



37.



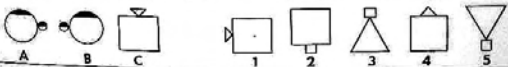
38.



39.



40.



INSTRUCTIONS FOR PART III

On the next several pages you will be given some problems in arithmetical reasoning. After each problem there are five answers, but only one of them is the correct answer. You are to solve each problem and indicate which answer you think is correct by marking the proper space on the answer sheet. The following problems have been done correctly. Study them carefully.

Example X: How many apples can you buy for 60 cents at the rate of 3 for 10 cents?

- (a) 6 (b) 12 (c) 18 (d) 20 (e) 30

The correct answer to the problem is 18, which is (c); therefore the space under the letter (c) on the separate answer sheet has been filled in.

Example Y: In 5 weeks John has saved \$3.50. What have his average weekly savings been?

- (a) 35¢ (b) 40¢ (c) 50¢ (d) 70¢ (e) 80¢

The correct answer to the above problem is 70¢; accordingly, choice (d) has been marked as the correct answer on the answer sheet.

When you are told to begin, turn the page immediately and begin to work. When you finish one page, go on to the next. Both speed and accuracy are important. You will be allowed 30 minutes, but you may not be able to finish in the time allowed.

DO NOT TURN THIS PAGE UNTIL YOU ARE TOLD TO BEGIN

PART III

1. The working hours in an office from Monday through Friday are 8:30 A.M. to 4:30 P.M. with 45 minutes for lunch and Saturdays from 8:30 A.M. to 12 noon. What is the total number of hours worked each week?
- (a) 36 hrs. 15 min. (b) 38 hrs. 30 min. (c) 39 hrs. 45 min.
(d) 43 hrs. 15 min. (e) 43 hrs. 30 min.
2. A bill for 5 typewriter ribbons and 24 pencils totalled \$9.85. If a typewriter ribbon costs \$1.25, what is the price of a dozen pencils?
- (a) 15 cents (b) \$1.80 (c) \$3.60
(d) \$4.30 (e) \$8.60
3. A plant originally employed 1,500 machine operators, 3,000 assemblers, and 500 supervisors. Because of a rise in production, the total number of employees was increased to 6,500. If each group of employees increased proportionately, what was the increase in the number of assemblers employed?
- (a) 150 (b) 300 (c) 450
(d) 900 (e) 1,500
4. Two secretaries each have 300 letters to type. One can type 15 letters an hour, while the second can do 13 letters an hour. At the time the first typist finishes the job, how many more letters does the second typist have to finish?
- (a) 20 (b) 26 (c) 39
(d) 40 (e) 60
5. The temperature at 1:00 P.M. was 74 degrees and at 6:30 P.M. it was 52 degrees. Assuming a constant rate of change, what was the temperature at 4:00 P.M.?
- (a) 86 degrees (b) 68 degrees (c) 66 degrees
(d) 64 degrees (e) 62 degrees
6. A file cabinet is twice as long as its width. The perimeter of the cabinet is 144 inches. What is its length?
- (a) 12 inches (b) 24 inches (c) 48 inches
(d) 72 inches (e) 96 inches

PART III (Cont'd)

7. A company has \$120,000 in sales. It allocates 5% of this amount to selling expenses. If sales increase 25%, what would be the increase in selling expenses?
- (a) \$1,500 (b) \$ 3,000 (c) \$6,000
(d) \$7,500 (e) \$30,000
8. The operator of an IBM Card Sorting Machine required 2 hours and 40 minutes to complete a punch card sorting job. There were 36,000 cards and each card had to be put through the machine four times to complete the job. How many cards did he process per minute?
- (a) 225 (b) 800 (c) 900
(d) 1,200 (e) 9,000
9. A has saved \$4,800. B has saved $\frac{1}{3}$ as much as A, while C has saved $\frac{1}{4}$ more than both A and B. What is the total amount of savings of all three men?
- (a) \$ 6,400 (b) \$ 8,000 (c) \$14,000
(d) \$14,400 (e) \$16,000
10. An inspector in a plant started to inspect 200 cartons of manufactured parts. After inspecting 25 cartons, he found enough defective parts to fill half a carton. If he finds the same proportion of defective parts in the remaining cartons, how many cartons of parts will be acceptable for shipment?
- (a) 4 (b) 8 (c) 21
(d) 175 (e) 196
11. A manufacturing plant has n machines. Each turns out p parts of which s parts (10%) must be scrapped. The formula showing the total net production of the plant is
- (a) $n(p - s)$ (b) $np - s$ (c) $.90np - s$
(d) $np - .10s$ (e) $.90nps$
12. Three accounting machines and 2 operators can finish in one day the work done by 10 clerks in two days. How many machines would be required to do in one day the work done by 40 clerks in one day?
- (a) 6 (b) 12 (c) 15
(d) 18 (e) 24

PART III (Cont'd)

13. During his first three years, a salesman sold 90%, 105%, and 120%, respectively, of his yearly sales quota which remained the same each year. If his sales totalled \$252,000 for the three years, how much were his sales below quota during his first year?
- (a) \$800 (b) \$ 2,400 (c) \$8,000
(d) \$12,000 (e) \$16,000
14. In a large office, $\frac{2}{3}$ of the staff can neither type nor take shorthand. However, $\frac{1}{4}$ of the staff can type and $\frac{1}{6}$ can take shorthand. What proportion of people in the office can do both?
- (a) $\frac{1}{12}$ (b) $\frac{5}{36}$ (c) $\frac{1}{4}$
(d) $\frac{5}{12}$ (e) $\frac{7}{12}$
15. A company invests \$80,000 of its employee pension fund in 4% and 5% bonds and receives \$3,360 in interest for the first year. What amount did the company have invested in 5% bonds?
- (a) \$12,800 (b) \$16,000 (c) \$32,000
(d) \$64,000 (e) \$67,200
16. A company made a net profit of 15% of sales. Total operating expenses were \$425,000. What was the total amount of sales?
- (a) \$361,250 (b) \$440,000 (c) \$450,000
(d) \$488,750 (e) \$500,000
17. An IBM Sorting Machine processes 1,000 cards per minute. However, 20% is deducted to allow for card handling time by the operator. A given job requires 5,000 cards to be put through the machine 5 times and 9,000 cards to be put through 7 times. How long will it take?
- (a) 1 hr. 10 min. (b) 1 hr. 28 min. (c) 1 hr. 45 min.
(d) 1 hr. 50 min. (e) 2 hrs. 10 min.

PART III (Cont'd)

18. If 9 IBM Accounting Machines can do a job in 5 days, how many additional machines would be required to do the job in 3 days?
- (a) 15 (b) 12 (c) 10
(d) 8 (e) 6
19. A department manager spent \$100 more than $\frac{1}{4}$ of his monthly budget during the first week of the month and had $\frac{2}{3}$ of the total amount left. How much did he spend during the first week?
- (a) \$300 (b) \$400 (c) \$600
(d) \$800 (e) \$1,200
20. A manufacturing plant has equal stocks of two different raw materials. In one month, it used $\frac{4}{5}$ of one kind and $\frac{9}{10}$ of the other. What proportion of the total amount of raw materials is unused?
- (a) $\frac{2}{15}$ (b) $\frac{3}{20}$ (c) $\frac{1}{5}$
(d) $\frac{3}{10}$ (e) $\frac{4}{15}$

**WHEN YOU HAVE COMPLETED PART III—CLOSE YOUR BOOK.
YOU MAY NOT RETURN TO PART I OR PART II.**

