IBM

矩阵题：

下面资料是根据历史资料整理。

共15道题，答题时间：13分钟。答错不扣分。

1.一共有三个5\*5的矩阵，每个矩阵5小题，在印象中，大概有这样一些：把所有的W替换成2，所有的Y替换成6，所有的X替换成4，哪一行和哪一列的和等于18？

把第四列反转，把第2行和第二列替换，第三列第四个下面的数字是什么？

把出现了数字2次数最多的那一行的出现的唯一一个字母从矩阵中删掉，它出现在矩阵其他地方的次数减去3出现的次数和4出现的次数减一是多少？

把每一个出现在数字2和3左边的字母全部与他们右边的数字交换，出现在数字最多的那一列的两个字母是？

2.开始给出一个4×5的矩阵，然后矩阵中的元素是类似于a,b,c,d这样的字母，题目有某一行中出现次数最多的元素是什么，这样的比较简单，还有从某个元素开始按逆时针或是顺时针方向旋转得到的元素是什么之类的，这样的就比较麻烦。

题目介绍：

1.

E D C B A

C A D E B

A D B C E

B E D A C

D C A E B

Start at the fourth letter of Column 5 and follow the letters around the outside of the pattern in a clockwise direction. What is the second letter between the second E and the second B you come to?

答案：C

解析：根据题意，从第5列第4个字母开始，在矩阵元素外沿顺时针方向走，在第2个E字母和第2个B字母之间的第二个字母应该为C，如图所示：

2:

A B 2 C 3

1 1 B 3 D

A 1 B C 4

5 A 5 2 B

E 5 D 2 C

In the row that has more letters than numbers, in which the numbers are separated by only one letter, and in which the numbers sum to less than the sum of the numbers in the second column, which letter comes just before the second number, counting from right to left?

答案：C

解析：根据题意：（1）字母比数字多的行有第1行、第3行、第5行；（2）数字只被1个字母隔开的行只有第1行；（3）在第1行中，从右往左数，在第2个数字（即2）之前的字母应该为C。

这道题的关键是找出题干中要求的那一行，其中最后一个条件：这一行的数字之和要小于第二列的数字之和（即1+1+5=7）可作为排除第5行的依据。

3:

E D C B A

C A D E B

A D B C E

B E D A C

D C A E B

If Row 4 were reversed, what letter would be above E in Row 5?

答案：E

解析：如果将第4行的字母倒转，则第4行变为：C A D E B，则在第5行字母E的上面的字母就是变化后的低行，从右往左数的第2个字母E。

tips：

搞清楚题目考察的位置，row,column,diagonal,reverse这些词要搞懂，然后用什

么替代什么也搞搞清楚，可以用笔简单标一下，铅笔和黑色水笔区分开两次标记，然后再

用其他字迹的笔标另外一次，关键是让自己看明白。最高境界大概是不标直接看！

这分打错不扣分，即使时间不够答题卡上一定要涂满

主要是时间不太够，这个部分拼得就是速度

序列题

4分钟20道题，答错倒扣1/4分

基本上都是两个一组，三个一组，全是一个规律：连续几个数字，跳一个，再连续几个数字。

题目介绍：

It consists of number series. In some institutes alphabetical series is given instead of number series.

1. 30,28,25,20,34,28,?

a:21

2. 4,8,16,32,64,128,?

a:256

3. 8,16,24,32,40,48,?

a:56

4. 13,11,14,12,15,13,?

a:16

5. 6,18,36,108,216,648,?

a:1296

6 4,4,8,8,16,16,?

a:32

7. 2,6,18,54,162,486,?

a:1458

8. 4,20,35,49,62,74,?

a:85

9. 10,18,15,23,20,28,?

a:25

10. 4,10,8,14,12,18,?

a:16

11.10,15,12,17,14,10,?

a:16

tips：这部分时间是最紧张的，看了题目直接在答题卡上划个线标出来，然后hr收试题

的时候再慢慢去涂到你觉得最漂亮为止，千万别在试题卷上标记答案而没有在答题卡上

标，这样既浪费时间而且可能等下试卷被收了还没把答案涂到答题卡上。

数学推理题

共12道题，答题时间：15分钟。答错倒扣1/4分

繁琐的数学，像初中的分数应用题，计算量比较大，全是小数点和分数。

中文：

1.有3台复印机（copier），平均每台每周工作42小时，每台每周最少工作35小时，问一台复印机每周最多会工作多少小时？

42\*3 - 35\*2 ＝56

2.在一个长11 meters，宽6 meters的房间里，铺上10 centimeters厚的水泥，问需要多少水泥？

11\*6\*0.1＝6.6 cubic meters

3.某公司有两座办公楼，一天，第一座楼20％的复印机和第二座楼40％的复印机需要进行维护，如果第一座楼拥有公司60％的复印机，问这天在维护的复印机是多少？

20% \* 60% + 40% \* (1 - 60%) = 28%

4.要在一个接待室(reception room)里铺瓷砖，接待室的长18 meters，宽12 meters，同时要修一条从大厅(hall)到楼梯(stair way)的通道（不铺瓷砖）占地50 square meters，允许铺设时有35%的浪费(wastage)，1平方米瓷砖的价格是10美元，问大约(approximately)要花多少钱？

(18 \* 12 - 50) \* 135% \* 10 = 2,200

5.某公司要做一个车辆更新，有2种车型，一种是X(忘了，用X代替),一种是van，新X每liter油走20公里，新van每liter油走15公里，旧X每liter油走15公里，旧van每liter油走12公里。现在要开15000公里，其中有60％由van来承担，问更新后将节省多少油？

(15000 \* 60% / 12 + 15000 \* 40% / 15) - (15000 \* 60% / 15 + 15000 \* 40% / 20) = 250

6.有2个行政打字员(administrative typist)，A的速度是B的1 1/4 times，现在要打72页文件，问快的那个人打了多少页？

72\* 5/9 = 40

7.有一个呼叫中心，星期二的calls比星期一的1/2还多1/3，星期一和星期二的calls的和是120，问星期二的calls是多少？

48

8.有一个软件公司，1/2的人是系统分析员，2/5的人是软件工程师，有1/4的人两者都是，问有多少人两者都不是？

1 - 1/2 - 2/5 + 1/4＝ 0.35

9.有一个crate要做等比例(proportionally)的缩放，为了能够便于运输(shipment)，crate的尺度(dimension)是72,96,48，如果缩放到三个尺度的和是200，问最长的那个尺度要缩多少？

96 \* (1 - 200 / 216) = 64 / 9 = 7.1

10. 有一个矩形，长是宽的1 1/3 times，如果把每边增加1，面积将增加85，问长是多少？

48

11.有一个printer，一小时能打12,000页，早上8:30开始打印，中途被打断2次，每次5分钟，13:15打完，问总共打了多少页？

55,000

英文：

1.A clerk multiplied a number by ten when it should have been divided by

ten.The ans he got was 100.what should the ans have been?

a:1

2.If Rs20/- is available to pay for typing a research report & typist A produces 42 pages and typist B produces 28 pages.How much should typist A receive?

a:Rs12/-

3.The average salary of 3 workers is 95 Rs. per week. If one earns

Rs.115 and second earns Rs.65 how much is the salary of the 3rd worker.

Ans.105.

4.A 16 stored building has 12000 sq.feet on each floor. Company A rents 7 floors and company B rents 4 floors. What is the number of sq.feet of unrented floor space.

Ans.60000

5. During a given week A programer spends 1/4 of his time preparing flow

chart, 3/8 of his time coding and the rest of the time in debugging the

programs. If he works 48 hours during the week , how many hours did he

spend debugging the program.

Ans. 18.

6. A company installed 36 machines at the beginning of the year. In March

they installed 9 additional machines and then disconnected 18 in August.

How many were still installed at the end of the year.

Ans. 27

7. A man owns 2/3 of the market research beauro business and sells 3/4 of

his shares for Rs. 75000. What is the value of Business.

Ans.150000

8. If 12 file cabinets require 18 feet of wall space, how many feet of wall space will 30 cabinets require?

Ans.45

9.A computer printer produced 176,400 lines in a given day. If the

printer was in operation for seven hours during the day, how many lines did it print per minute?

Ans.420

10. From its total income, A sales company spent Rs.20,000 for advertising, half of the remainder on commissions and had Rs.6000 left.

What was its total income?

Ans.32000

11. On Monday a banker processed a batch of cheques, on Tuesday she

processed three times as many, and on Wednesday she processed 4000

cheques. In the three days, she processed 16000 cheques. How many did

she process on Tuesday?

Ans.9000

12. The cost of four dozen proof machine ribbons and five dozen accouting

machine ribbons was Rs.160/-. If one dozen accounting machine ribbons

cost Rs.20/-, what is the cost of a dozen proof machine ribbons?

Ans.Rs.15

13. If a clerk can process 80 cheques in half an hour, how many cheques

can she process in a seven and one half hour day?

Ans.1200

14. In a library, there are two racks with 40 books per rack. On a given

day, 30 books were issued. What fraction remained in the racks?

Ans.5/8

15. The average length of three tapes is 6800 feet. None of the tapes is

less than 6400 feet. What is the greatest possible length of one of the

other tapes?

Ans.7600

16. A company rented a machine for Rs.700/- a month. Five years later

the treasurer calculated that if the company had purchased the machine

and paid Rs.100/- monthly maintenance charge, the company would have

saved Rs.2000/-. What was the purchase price of the machine?

Ans.Rs.34000

17. Two computers each produced 48000 public utility bills in a day. One

computer printed bills at the rate of 9600 an hour and the other at the

rate of 7800 an hour. When the first computer finished its run, how many

bills did the other computer still have to print?

Ans.9000

18. If a salesman's average is a new order every other week, he will

break the office record of the year. However, after 28 weeks, he is six

orders behind schedule. In what proportion of the remaining weeks does

he have to obtain a new order to break the record?

Ans.3/4

19. On a given day, a bank had 16000 cheques returned by customers.

Inspection of the first 800 cheques indicated that 100 of those 800 had

errors and were therefore the available immediately for data processing.

On this basis, hwo many cheques would be available immediately for data

processing on that day?

Ans.14000

20. A company figured it needed 37.8 sq.feet of carpot for its reception

room. To allow for waste, it decided to order 20% more material than

needed. Fractional parts of sq.feet cannot be ordered. At Rs.9/- a

sq.feet, how much would the carpet cost?

Ans.

a. Rs.324 b) Rs.405 c) Rs.410 d) Rs.414 e) Rs.685

21. A tape manufacturer reduces the price of his heavy duty tape from

Rs.30/- to Rs.28/- a reel and the price of a regular tape from Rs.24/- to

Rs.23/- a reel. A computing centre normally spends Rs.1440/- a month for

tapes and 3/4 of this is for heavy duty tapes. How much will they save a

month under the new prices?

Ans.Rs.87 132

22. In a team of 12 persons, 1/3 are women and 2/3 are men. To obtain a

team with 20% women how many men should be hired?

Ans.8

23. The dimensions of a certain machine are 48″ X 30″ X 52″. If the size

of the machine is increased proportionately until the sum of its

dimensions equals 156″, what will be the increase in the shortest side?

Ans. 6″

24. In a certain company, 20% of the men and 40% of the women attended

the annual company picnic. If 35% of all the employees are man, what

percent of all the employees went to the picnic?

Ans.33% 21%

25. It cost a college Rs.0.70 a copy to produce a Programme for the

homecoming football game. If Rs.15,000/- was received for advertisements

in the programme, how many copies at Rs.0.50 a copy must be sold to make

a profit of Rs.8000/- ?

Ans. 35000

矩阵部分的第一大题记得有许多符号，具体字母和符号的位置记不清了——题型如下，可作参考

M ！ / # T

T # ! / #

/ M M ! T

T ! # T /

! T T # !

(1)把所有的M都换成6，把所有的#都换成4，哪一行和哪一列的数字之和是18

A.row 3 and column 5

B.row 1 and column 4

C.row 5 and column 3

D.row 2 and column 3

E.row 3 and column 4

(2)把所有#都换成M，再把从右上到左下的对角线reverse，再把第二行和第四行对调，问第二行从右向左数第二个是什么

A.M

B.T

C.#

D./

E.!

(3)把所有出现在/左边的！都换成T，所有出现在行结尾的T都换成/，问现在位于第四行第二列的是什么

A.M

B.T

C.#

D./

E.!

(4)。。。

(5)。。。自己编吧，就跟上面三道类似，可见IBM的题并不是很简单的，还是需要做些准备和训练的~~

第二大题是字母和数字的组合，跟前辈笔经里的一道题很相似，现在把笔经里的那道题借用一下贴过来

A B 2 C 3

1 1 B 3 D

A 1 B C 4

5 A 5 2 B

E 5 D 2 C

In the row that has more letters than numbers, in which the numbers are separated by only one letter, and in which the numbers sum to less than the sum of the numbers in the second column, which letter comes just before the second number, counting from right to left?

第三大题是全字母的，具体位置记不清，也贴上来一个类似的M N H G JJ M G J NH N H G JG J M J HH M J N G(1)把所有的M换成H，所有原来矩阵中的的H换成G，所有原来矩阵中的的G换成N，所有原来矩阵中的的N换成J，然后问将从左上到右下的对角线 REVERSE，问第三行第二列是什么字母A.MB.NC.HD.GE.J(2)把所有的N换成3，J换成2，哪一行的数字之和最多A.row 1B.row 2C.row 3D.row 4E.row 5(3)将第一行、第三行、第五行都reverse，再把第三行和第五行对调，原来矩阵中第14个字母是现在矩阵中的第几个 A.24B.22C.19D.12E20(4)。。。(5)。。。都类似于前面三道考前看到一个前辈说带几支不同颜色的笔，好在一个矩阵上为不同的题做标记。我准备了四种颜色的笔，但是由于事先没有练过手，现场练又没有时间，导致除了铅笔用来涂卡，其他的笔都没有用上。。。矩阵做得两个字：糟糕第二部分数列，20道。两个字：郁闷题目都是等差数列，或者说我做的前14道题都是等差数列，后面的没来得及做就到时间了，所以考前还是找点小学数学竞赛题里的填数题练一下手比较好