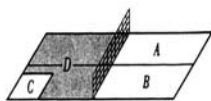


(18) (本小题满分12分)

乒乓球台面被球网分隔成甲、乙两部分。如图，甲上有两个不相交的区域A、B，乙被划分为两个不相交的区域C、D。某次测试要求队员接到



落在甲上的来球后向乙回球。规定：回球一次，落在C上记3分，在D上记1分，其它情况记0分。对落在A上的来球，队员小明回球的落在C上的概率为 $\frac{1}{2}$ ，在D上的

概率为 $\frac{1}{3}$ ；对落在B上的来球，小明回球的落在C上的概率为 $\frac{1}{5}$ ，在D上的概率为

$\frac{3}{5}$ 。假设共有两次来球且落在A、B上各一次，小明的两次回球互不影响。求：

(I) 小明两次回球的落点中恰有一次的落点在乙上的概率；

(II) 两次回球结束后，小明得分之和 $\xi$ 的分布列与数学期望。

(19) (本小题满分12分)

已知等差数列 $\{a_n\}$ 的公差为2，前n项和为 $S_n$ ，且 $S_1, S_2, S_3$ 成等比数列。

(I) 求数列 $\{a_n\}$ 的通项公式；

(II) 令 $b_n = (-1)^{n-1} \frac{4n}{a_n a_{n+1}}$ ，求数列 $\{b_n\}$ 的前n项和 $T_n$ 。

(20) (本小题满分13分)

设函数 $f(x) = \frac{e^x}{x^2} - k(\frac{2}{x} + \ln x)$  ( $k$ 为常数， $e = 2.718 28 \dots$ 是自然对数的底数)。

(I) 当 $k \leq 0$ 时，求函数 $f(x)$ 的单调区间；

(II) 若函数 $f(x)$ 在 $(0, 2)$ 内存在两个极值点，求 $k$ 的取值范围。

(21) (本小题满分14分)

已知抛物线 $C: y^2 = 2px$  ( $p > 0$ )的焦点为 $F$ ， $A$ 为 $C$ 上异于原点的任意一点，过点 $A$ 的直线 $l$ 交 $C$ 于另一点 $B$ ，交 $x$ 轴的正半轴于点 $D$ ，且有 $|FA| = |FD|$ 。当点 $A$ 的横坐标为3时， $\triangle ADF$ 为正三角形。

(I) 求 $C$ 的方程；

(II) 若直线 $l_1 \parallel l$ ，且 $l_1$ 和 $C$ 有且只有一个公共点 $E$ ，

(i) 证明直线 $AE$ 过定点，并求出该定点坐标；

(ii)  $\triangle ABE$ 的面积是否存在最小值？若存在，请求出最小值；若不存在，请说明理由。

绝密★启用前

2014年普通高等学校招生全国统一考试(山东卷)

英语

本试卷分第I卷和第II卷两部分，共12页。满分150分。考试用时120分钟。考试结束后，将本试卷和答题卡一并交回。

注意事项：

1. 答题前，考生务必用0.5毫米黑色签字笔将自己的姓名、座号、考生号、县区和科类填写在答题卡和试卷规定的位置上。

2. 第I卷每小题选出答案后，用2B铅笔把答题卡上对应题目的答案标号涂黑；如需改动，用橡皮擦干净后，再选涂其他答案标号。

3. 第II卷必须用0.5毫米黑色签字笔作答，答案必须写在答题卡各题目指定区域内相应的位置，不能写在试卷上；如需改动，先划掉原来的答案，然后再写上新的答案；不能使用涂改液、胶带纸、修正带。不按以上要求作答的答案无效。

第I卷(共105分)

第一部分 英语知识运用(共两节，满分55分)

第一节 单项填空(共10小题；每小题1.5分，满分15分)

从A、B、C、D四个选项中，选出可以填入空白处的最佳选项，并在答题卡上将该项涂黑。

- Writing out all the invitations by hand was more time-consuming than we \_\_\_\_\_.  
A. will expect B. are expecting C. expect D. had expected
- I don't really like the author, \_\_\_\_\_ I have to admit his books are very exciting.  
A. although B. unless C. until D. once
- This apple pie is too sweet, don't you think so?  
— \_\_\_\_\_. I think it's just right, actually.  
A. Not really B. I hope so C. Sounds good D. No wonder
- Susan made \_\_\_\_\_ clear to me that she wished to make a new life for herself.  
A. that B. this C. it D. her
- They made up their mind that they \_\_\_\_\_ a new house once Larry changed jobs.  
A. bought B. would buy C. have bought D. had bought
- There's a note pinned to the door \_\_\_\_\_ when the shop will open again.  
A. saying B. says C. said D. having said

7. It is difficult for us to imagine \_\_\_\_\_ life was like for slaves in the ancient world.

- A. where B. what C. which D. why

8. — Is Anne coming tomorrow?  
— \_\_\_\_\_. If she were to come, she would have called me.

- A. Go ahead B. Certainly C. That's right D. I don't think so

9. It's standard practice for a company like this one \_\_\_\_\_ a security officer.

- A. employed B. being employed C. to employ D. employs

10. A company \_\_\_\_\_ profits from home markets are declining may seek opportunities abroad.

- A. which B. whose C. who D. why

第二节 完形填空(共30小题；A篇每小题1分，B篇每小题1.5分，满分40分)

阅读下面短文，从短文后各题所给的四个选项(A、B、C和D)中选出可以填入空白处的最佳选项，并在答题卡上将该项涂黑。

A

There was a pet store and the owner had a parrot. One day a 11 walked in and the parrot said to the man, "Hey you!" The man said, "What!?" The parrot said, "Your 12 is really ugly." The man got very 13 and went to the store owner and said, "Your bird just 14 my wife. It said she was ugly."

The owner stormed over, 15 the bird, took it into the "black room," shook it a bit, 16 out a few feathers, and said, "Don't ever, ever say anything to 17 my customers again. You got that!!!"

With that 18 he took the bird and put it back into its cage. The old bird shook out its 19 and relaxed in its cage. A couple of weeks 20 and in walked this guy and his wife again. The parrot said, "Hey you!" The guy said, "What!?" The parrot answered, "You know that."

11. A. group B. team C. couple D. crowd  
12. A. wife B. sister C. mother D. daughter  
13. A. curious B. nervous C. guilty D. angry  
14. A. greeted B. puzzled C. offended D. scared  
15. A. hugged B. seized C. trained D. rescued  
16. A. sent B. handed C. pulled D. dug  
17. A. touch B. amuse C. cheat D. embarrass  
18. A. warning B. comment C. suggestion D. request  
19. A. eyes B. feathers C. fur D. skin  
20. A. lasted B. arrived C. appeared D. passed



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