齐鲁晚报
2020年7月11日 星期六

2020 新高考答卷 ——高考试题及答案特刊

高考 A09
所有试题及答案
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将①代入上式可得 $(k^2+1)\dfrac{2m^2-6}{1+2k^2}-(km-k-2)\dfrac{4km}{1+2k^2}+(m-1)^2+4=0.$

整理得 $(2k+3m+1)(2k+m-1)=0.$

因为 $A(2,1)$ 不在直线 MN 上,所以 $2k+m-1\neq 0$,故 $2k+3m+1=0$,$k\neq 1$.

于是直线 MN 的方程为 $y=k\left(x-\dfrac{2}{3}\right)-\dfrac{1}{3}$ $(k\neq 1)$.

所以直线 MN 过点 $P\left(\dfrac{2}{3},-\dfrac{1}{3}\right)$.

若直线 MN 与 x 轴垂直,可得 $N(x_1,-y_1)$.

由 $\overrightarrow{AM}\cdot\overrightarrow{AN}=0$ 得 $(x_1-2)(x_1-2)+(y_1-1)(-y_1-1)=0.$

又 $\dfrac{x_1^2}{6}+\dfrac{y_1^2}{3}=1$,可得 $3x_1^2-8x_1+4=0.$ 解得 $x_1=2$(舍去),$x_1=\dfrac{2}{3}$.

此时直线 MN 过点 $P\left(\dfrac{2}{3},-\dfrac{1}{3}\right)$.

令 Q 为 AP 的中点,即 $Q\left(\dfrac{4}{3},\dfrac{1}{3}\right)$.

若 D 与 P 不重合,则由题设知 AP 是 $Rt\triangle ADP$ 的斜边,故 $|DQ|=\dfrac{1}{2}|AP|=\dfrac{2\sqrt{2}}{3}.$

若 D 与 P 重合,则 $|DQ|=\dfrac{1}{2}|AP|.$

综上,存在点 $Q\left(\dfrac{4}{3},\dfrac{1}{3}\right)$,使得 $|DQ|$ 为定值.

绝密★启用前

2020年普通高等学校招生全国统一考试

英 语

注意事项:

1. 答卷前,考生务必将自己的姓名、准考证号填写在答题卡上。

2. 回答选择题时,选出每小题答案后,用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。回答非选择题时,将答案写在答题卡上,写在本试卷上无效。

3. 考试结束后,将本试卷和答题卡一并交回。

第一部分 阅读(共两节,满分50分)

第一节 (共15小题;每小题2.5分,满分37.5分)

阅读下列短文,从每题所给的A、B、C、D四个选项中选出最佳选项。

A

POETRY CHALLENGE

Write a poem about how courage, determination, and strength have helped you face challenges in your life.

Prizes

3 Grand Prizes: Trip to Washington, D.C. for each of three winners, a parent and one other person of the winner's choice. Trip includes round-trip air tickets, hotel stay for two nights, and tours of the National Air and Space Museum and the office of National Geographic World.

6 First Prizes: The book *Sky Pioneer: A Photobiography of Amelia Earhart* signed by author Corinne Szabo and pilot Linda Finch.

50 Honorable Mentions: Judges will choose up to 50 honorable mention winners, who will each receive a T-shirt in memory of Earhart's final flight.

Rules

Follow all rules carefully to prevent disqualification.

■ Write a poem using 100 words or fewer. Your poem can be any format, any number of lines.

■ Write by hand or type on a single sheet of paper. You may use both the front and back of the paper.

■ On the same sheet of paper, write or type your name, address, telephone number, and birth date.

■ Mail your entry to us by October 31 this year.

1. How many people can each grand prize winner take on the free trip?
   A. Two.   B. Three.   C. Four.   D. Six.

2. What will each of the honorable mention winners get?
   A. A plane ticket.
   B. A book by Corinne Szabo.
   C. A special T-shirt.
   D. A photo of Amelia Earhart.

3. Which of the following will result in disqualification?
   A. Typing your poem out.
   B. Writing a poem of 120 words.
   C. Using both sides of the paper.
   D. Mailing your entry on October 30.

B

Jennifer Mauer has needed more willpower than the typical college student to pursue her goal of earning a nursing degree. That willpower bore fruit when Jennifer graduated from University of Wisconsin-Eau Claire and became the first in her large family to earn a bachelor's degree.

Mauer, of Edgar, Wisconsin, grew up on a farm in a family of 10 children. Her dad worked at a job away from the farm, and her mother ran the farm with the kids. After high school, Jennifer attended a local technical college, working to pay her tuition (学费), because there was no extra money set aside for a college education. After graduation, she worked to help her sisters and brothers pay for their schooling.

Jennifer now is married and has three children of her own. She decided to go back to college to advance her career and to be able to better support her family while doing something she loves: nursing. She chose the UW-Eau Claire program at Ministry Saint Joseph's Hospital in Marshfield because she was able to pursue her four-year degree close to home. She could drive to class and be home in the evening to help with her kids. Jennifer received great support from her family as she worked to earn her degree: Her husband worked two jobs to cover the bills, and her 68-year-old mother helped take care of the children at times.