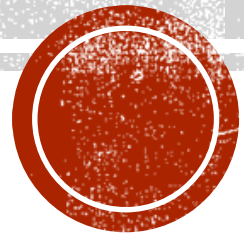
GRE数学刷题直播1



第一章 算数

- 1.只用6和7组成的三位数在600到770（inclusive）之间有多少个数字。

真经GRE

2. Quantity A: The number of different prime factors of 500

Quantity B: The number of different prime factors of 360.

A. Quantity A is greater.

B. Quantity B is greater.

C. The two quantities are equal.

D. The relationship cannot be determined from the information given.

GRE

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- 3. $x < y$且都是整数，如果x^2+y^2是偶数，问下列哪些一定是偶数？（不定项选择题）
- A. xy　　B. $x+y$　　C. $y-x$　　D. x^2+y

真经GRE

- 4. How many positive integers less than 100 have a remainder of 2 when divided by 13?

  A. 6　　B. 7

  C. 8　　D. 9

  E. 10

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- 5. If x is an odd negative integer and y is an even integer, which of the following statements must be true?

I. $(3x - 2y)$ is odd.

II. $x y^2$ is an even negative integer.

III. $(y^2 - x)$ is an odd negative integer.

A. I only

B. II only

C. I and II

D. I and III

E. II and III

- 6. Quantity A: The number of prime numbers divisible by 13

  Quantity B: The number of prime numbers divisible by 2

  A. Quantity A is greater.

  B. Quantity B is greater.

  C. The two quantities are equal.

  D. The relationship cannot be determined from the information given.

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- 7. n is an even integer.

  Quantity A: The number of prime factors of n

  Quantity B: The number of prime factors of $\frac{n}{2}$

  A. Quantity A is greater.

  B. Quantity B is greater.

  C. The two quantities are equal.

  D. The relationship cannot be determined from the information given.

GRE

- 8.2^{32}除以3的余数和1比大小

真经GRE

- 9. What is the remainder when 3^{283} is divided by 5?

A. 0　　B. 1

C. 2　　D. 3

E. 4

GRE

- 10. If x is a positive integer such that the units digit of x^3 is 3, what is the units digit of x^{15}?

  A. 1

  B. 3

  C. 5

  D. 7

  E. 9

GRE

11. $N = 824^x$, where x is a positive integer.

Quantity A: the number of possible values the units digit of N

Quantity B: 4

A. Quantity A is greater.

B. Quantity B is greater.

C. The two quantities are equal.

D. The relationship cannot be determined from the information given.

GRE

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12. $m=10^{32}+2$, when m is divided by 11, the remainder is r.

Quantity A: r

Quantity B: 3

A. Quantity A is greater.

B. Quantity B is greater.

C. The two quantities are equal.

D. The relationship cannot be determined from the information given.

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- 13. If N is an integer and $99 < N^2 < 200$, then N could have at most how many values?

A. Two

B. Four

C. Six

D. Eight

E. Ten

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- 14. If $1/[(2^{11}) \cdot (5^{17})]$ is expressed as a terminating decimal, how many nonzero digits will the decimal have?

A. One

B. Two

C. Four

D. Six

E. Eleven

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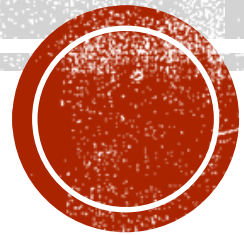
第二章 代数



- 1.事件A发生的概率是P，问P(1-P)和0.4的大小关系。

真经GRE

- 2.有一个三位数，百位＞十位＞个位，任意两个数位相加＜10，三个数位的数字相加的和是12，求这个数字是多少。

真经GRE

- 3. x is a negative integer.

  Quantity A: 2^x

  Quantity B: 3^{x+1}

  A. Quantity A is greater.

  B. Quantity B is greater.

  C. The two quantities are equal.

  D. The relationship cannot be determined from the information given.

NEW GRE

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- 4.一个化学反应中有两种物质A和B，B是A的四倍数量，反应后A有1/4变成B，B有1/4变成A，问反应后A和B的比例。

真经GRE

- 5. What is the sum of all possible solutions of the equation $|x+4|^2-10|x+4|=24$

A. -16

B. -14

C. -12

D. -8

E. -6

GRE

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- 6. Which of the following functions f defined for all numbers x has the property that $f(-x) = -f(x)$ for all numbers x?

A. $f(x)=\frac{x^3}{x^2+1}$

B. $f(x)=\frac{x^2-1}{x^2+1}$

C. $f(x)=x^2(x^2-1)$

D. $f(x)=x(x^3-1)$

E. $f(x)=x^2(x^3-1)$

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- 7.一个公司70%都是律师，55%的员工是female，而famale里面有60%是律师，问男律师的占公司总人数的比例。

真经GRE

- 8. Amy and Jed are among the 35 people, who are standing in a line, one behind the other, waiting to buy movie tickets. The number of people in front of Amy plus the number of people behind Jed is 24. If there are 15 people behind Amy, including Jed, how many people are in front of Jed?

  A. 23

  B. 25

  C. 27

  D. 29

  E. 31

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- 9. Last year Leo bought two paintings. This year he sold them for $2,000 each. On one, he made a 25% profit, and on the other he had a 25% loss. What was his net loss or profit?

A. He broke even.

B. He lost less than $100.

C. He lost more than $100.

D. He earned less than $100.

E. He earned more than $100.

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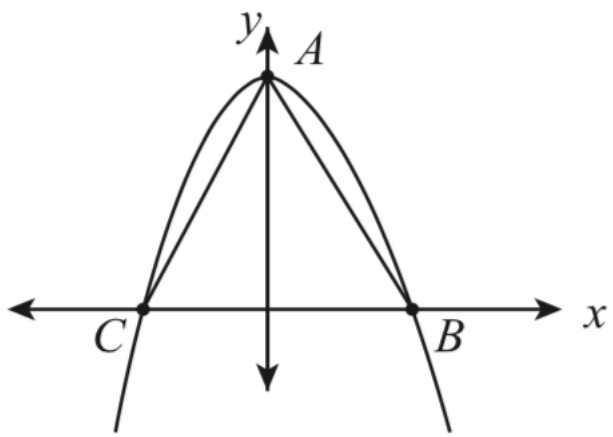
- 10. y > 1001，比较三次根号下y和y/100的大小关系。

真经GRE

- 11. The figure below shows the graph of the equation $y = k - x^2$, where k is a constant. If the area of triangle ABC is 1/8, what is the value of k? Give your answer to the nearest 0.01.



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- 12. In the $xy-$plane, line k is a line that does not pass through the origin.

  Which of the following statements individually provide(s) sufficient additional information to determine whether the slope of line k is negative?

  Indicate all such statements.

  A. The $x-$intercept of line k is twice the $y-$intercept of line k.

  B. The product of the $x-$intercept and the $y-$intercept of line k is positive.

  C. Line k passes through the points (a, b) and (r, s), where $(a-r)(b-s) < 0$.

第三章 几何

- 1. Quantity A: x

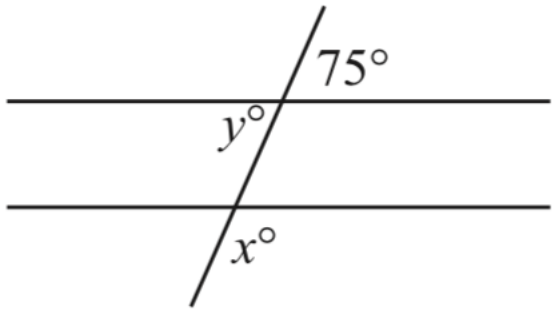
  Quantity B: y

  A. Quantity A is greater.

  B. Quantity B is greater.

  C. The two quantities are equal.

  D. The relationship cannot be determined from the information given.



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- 2.一个多边形比另外一个多边形的内角和大360度，问边长多了几条。

真经GRE

- 3. A regular polygon with n sides has interior angles that measure p degrees each. The value of p when $n = 8$ is how much greater than the value of p when $n = 6$?

  A. 10

  B. 15

  C. 20

  D. 25

  E. 30

NE GRE

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- 4. Quantity A: The area of a triangular region with perimeter 8

  Quantity B: 8

  A. Quantity A is greater.

  B. Quantity B is greater.

  C. The two quantities are equal.

  D. The relationship cannot be determined from the information given.

GRE

- 5. Two sides of a triangle have length 6 and 8. Which of the following are possible areas of the triangle?

  I. 2

  II. 12

  III. 24

  A. I only

  B. I and II only

  C. II and III only

  D. I and III only

  E. I, II, and III

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- 6. If $ABCD$ is a square with area 625, and $CEFD$ is a rhombus with area 500, then the area of the shaded region is?

  Note: Figure not drawn to scale

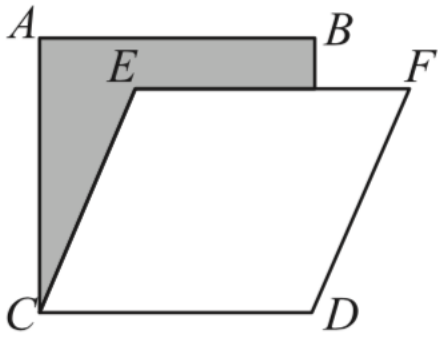
  A. 125

  B. 175

  C. 200

  D. 250

  E. 275



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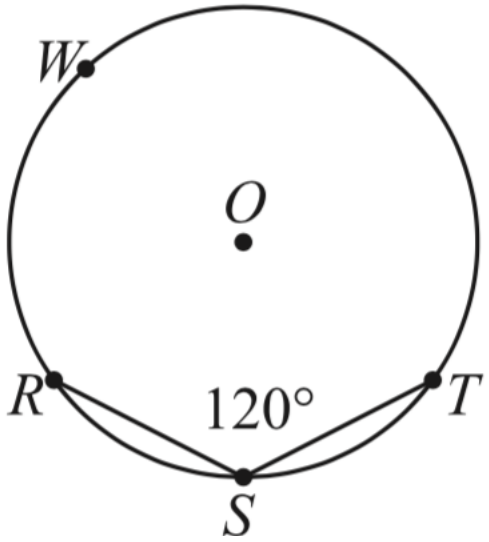
- 7. The center of the circle is O, and $RS=ST=4$. What is the length of arc RWT?

A. $\frac{4\pi}{3}$　　B. $\frac{8\pi}{3}$　　C. $\frac{16\pi}{3}$

D. 4π　　E. 8π



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- 8.一个正多边形的每一个内角的度数在100-130度之间，问可以是几边形（不定项选择）。

真经GRE

- 9. In a plane, points P and Q are 20 inches apart. If point R is randomly chosen from all the points in the plane that are 20 inches from P, what is the probability that R is closer to P than it is to Q?

  A. 0

  B. 1/4

  C. 1/3

  D. 1/2

  E. 2/3

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- 10. A rectangular solid P has height $2c$ and a base of width a and length b. Two other rectangular solids, Q and R, each have height c and bases of width a and length b. Which of the following represents the amount by which the sum of the surface areas of Q and R exceeds the surface areas of P?

  A. $2ab$

  B. $4ab$

  C. $2ab + 2bc$

  D. $2ab + 4ac$

  E. $2ab + 4ac + 4bc$

NEGRE

第四章 资料分析

- 1.一个人有5件衬衫，4条裤子，3双鞋子，其中一件衬衫和一条裤子不能一起搭配，问一共有多少种搭配法。

真经GRE

- 2.比较1,11,111和2,22,222之间标准方差哪个大。

真经GRE

- 3. 10本书，4本为fiction，剩下6本为non-fiction(其中有3本为biography)，然后主人公要选3本书作为online reading，问他选到at least one fiction, and at most one biography的概率。

真经GRE

- 4.有5对龙凤胎共10个人，要从这5对龙凤胎里面选4个人，2男2女，且每一对龙凤胎最多只能选1个人，问有多少种选法。

真经GRE

- 5. Each of the following linear equations defines y as a function of x for all integers x from 1 to 100. For which of the following equations is the standard deviation of the $y-$values corresponding to all the $x-$values the greatest?

A. $y=x/3$

B. $y=x/2+40$

C. $y=x$

D. $y=2x+50$

E. $y=3x-20$

GRE

- 6. In a data set of 10,000 numbers varying from 20 to 80, the number 62 is the 60th percentile and the number 74 is the nth percentile.

  Quantity A: n

  Quantity B: 70

  A. Quantity A is greater.

  B. Quantity B is greater.

  C. The two quantities are equal.

  D. The relationship cannot be determined from the information given.

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- 7. In a distribution of 8,500 different measurements of the variable x, 26.5 is the 56th percentile and 37.1 is the 78th percentile. Which of the following is closest to the number of measurements of x that are in the distribution such that $26.5 \leqslant x \leqslant 37.1$?

A. 1,850　　B. 2,200

C. 3,500　　D. 4,750

E. 6,650

GRE

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- 8. Set A has 50 members and set B has 53 members. At least 2 of the members in set A are not in set B. Which of the following could be the number of members in set B that are not in set A?

  Indicate all such numbers.

  A. 3

  B. 5

  C. 13

  D. 25

  E. 50

  F. 53

GRE

- 9.1-603（inclusive），问是2或者3的倍数的数字有多少个。

真经GRE

- 10. There are 10 people in a room. If each person shakes hands with exactly 3 other people, what is the total number of handshakes?

  A. 15

  B. 30

  C. 45

  D. 60

  E. 120

GRE

- 11. In how many different ways can 3 boys and 3 girls be seated in a row of 6 chairs such that the girls are not separated, and the boys are not separated?

  A. 24

  B. 36

  C. 72

  D. 144

  E. 288

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- 12. For a certain probability experiment, the probability that event A will occur is 1/2 and the probability that event B will occur is 1/3. Which of the following values could be the probability that the event $A \cup B$ (that is, the event A or B, or both) will occur?

  Indicate all such values.

  A. 1/3

  B. 1/2

  C. 3/4

GRE

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- 13. A box at a yard sale contains 3 different china dinner sets, each consisting of 5 plates. A customer will randomly select 2 plates to check for defects. What is the probability that the 2 plates selected will be from the same dinner set?

A. 2/7

B. 2/5

C. 2/3

D. 5/6

E. 3/2

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- 14.有两个集合，A={1,2,3},B={1,2,3,4}，比较A集合能够组成的4位数的个数和B集合能够组成的3位数的个数（数字可以重复使用）。

真经GRE

- 15. A random variable Y is normally distributed with a mean of 200 and a standard deviation of 10.

  Quantity A: The probability of the event that the value of Y is greater than 220

  Quantity B: $\frac{1}{6}$

  A. Quantity A is greater.

  B. Quantity B is greater.

  C. The two quantities are equal.

  D. The relationship cannot be determined from the information given.

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NEW GRE

- 16. The random variable X is normally distributed. The values 650 and 850 are at the 60th and 90th percentiles of the distribution of X, respectively.

  Quantity A: The value at the 75th percentile of the distribution of X

  Quantity B: 750

  A. Quantity A is greater.

  B. Quantity B is greater.

  C. The two quantities are equal.

  D. The relationship cannot be determined from the information given.