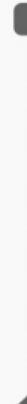


数学冲刺

GMAT



第三章 代数

本节课授课要点

3.1
代数核心知识及重点题目

3.1 代数核心知识及重点题目

代数基本公式

$$(a+b)^2 = a^2 + 2ab + b^2 \quad a^3 - b^3 = (a-b)(a^2 + ab + b^2)$$

$$(a-b)^3 = a^3 - 3a^2b + 3ab^2 - b^3 \quad a^3 + b^3 = (a+b)(a^2 - ab + b^2)$$

$$a^2 - b^2 = (a+b)(a-b) \quad (a+b)^3 = a^3 + 3a^2b + 3ab^2 + b^3$$

3.1 代数核心知识及重点题目

$$\frac{0.99999999}{1.0001} - \frac{0.99999991}{1.0003} =$$

- A. 10^{-8}
- B. $3(10^{-8})$
- C. $3(10^{-4})$
- D. $2(10^{-4})$
- E. 10^{-4}

3.1 代数核心知识及重点题目

指数公式

$$a^x \cdot a^y = a^{x+y}$$

$$a^x \div a^y = a^{x-y}$$

$$(a^x)^y = a^{xy}$$

$$a^{\frac{1}{x}} = \sqrt[x]{a}$$

$$a^x \cdot b^x = (ab)^x$$

$$a^{-x} = \frac{1}{a^x}$$

$$a^0 = 1 (a \neq 0)$$

$$a^{\frac{n}{m}} = \sqrt[m]{a^n}$$

3.1 代数核心知识及重点题目

Is x^3 equal to 125?

(1) $x > 4$

(2) $x < 6$

3.1 代数核心知识及重点题目

If n is an integer and $x^n - x^{-n} = 0$,what is the value of x?

(1) x is an integer.

(2) $n \neq 0$

3.1 代数核心知识及重点题目

绝对值与不等式

3.1 代数核心知识及重点题目

If y is an integer and $y = |x| + x$, is y=0?

- (1) $x < 0$
- (2) $y < 1$

3.1 代数核心知识及重点题目

- 对于指数不等式，底要从 $<-1, (-1,0), (0,1), >1$ 四个区间考虑 .
- 不要忽略 $-1, 0, 1$ 三个特殊情况
- 情况较复杂，试数最保险.

3.1 代数核心知识及重点题目

If $x > y^2 > z^4$, which of the following statement could be true?

- I. $x > y > z$
 - II. $z > y > x$
 - III. $x > z > y$
- I only
 - I and II only
 - I and III only
 - II and III only
 - I II and III

3.1 代数核心知识及重点题目

Is $xy + z = z$, is $|x - y| > 0$?

(1) $x = 0$

(2) $y = 0$

3.1 代数核心知识及重点题目

不等式应用

- ◆ 核心：抓住临界点

3.1 代数核心知识及重点题目

A certain right triangle has sides of length x, y and z , where $x < y < z$. If the area of this triangular region is 1, which of the following indicates all of the possible values of y ?

A. $y > \sqrt{2}$

B. $\frac{\sqrt{3}}{2} < y < \sqrt{2}$

C. $\frac{\sqrt{2}}{3} < y < \frac{\sqrt{3}}{2}$

D. $\frac{\sqrt{3}}{4} < y < \frac{\sqrt{2}}{3}$

E. $y < \frac{\sqrt{3}}{4}$

3.1 代数核心知识及重点题目

Material A costs \$3 per kilogram ,and material B costs \$5 per kilogram .If 10 kilograms of material K consists of x kilograms of material A and y kilograms of material B ,is $x>y$?

- (1) $y>4$
- (2) The cost of the 10 kilograms of material K is less than \$40
 - A. Statement (1) ALONE is sufficient ,but statement (2) alone is not sufficient .
 - B. Statement (2) ALONE is sufficient ,but statement (1) alone is not sufficient .
 - C. BOTH statement TOGETHER are sufficient ,but NEITHER statement ALONE is sufficient
 - D. EACH statement ALONE is sufficient
 - E. Statement (1)and (2) TOGETHER are NOT sufficient

3.1 代数核心知识及重点题目

定义性运算

3.1 代数核心知识及重点题目

The operation* represents either addition ,subtraction,or multiplication of integers ,what is the value of $1^{\ast}0$?

- (1) $0^{\ast}2=2$
- (2) $2^{\ast}0=2$

- A. Statement (1) ALONE is sufficient ,but statement (2) alone is not sufficient .
- B. Statement (2) ALONE is sufficient ,but statement (1) alone is not sufficient .
- C. BOTH statement TOGETHER are sufficient ,but NEITHER statement ALONE is sufficient
- D. EACH statement ALONE is sufficient
- E. Statement (1)and (2) TOGETHER are NOT sufficient .

回顾本节课授课要点

3.1
代数核心知识及重点题目

预告下节课授课要点

4.1

几何核心知识点及重点题目

THANK YOU