习题篇 03

小树老师的数学课

The arithmetic mean and standard deviation of a certain normal distribution are 13.5 and 1.5, respectively. What value is exactly 2 standard deviations less than the mean?

A 10.5

B 11.0

C 11.5

D 12.0

E 12.5

A bar over a sequence of digits in a decimal indicates that the sequence repeats indefinitely.What is the value of $(10^4 - 10^2)(0.00\overline{12})$?

A 0

B $0.\overline{12}$

C 1.2

D 10

E 12

0.00121212…
12.121212..
0.121212

For the positive numbers, n, n + 1, n + 2, n + 4, and n + 8, the mean is how much greater than the median

A 0

B 1

C n+1

D n+2

E n+3

If Q is an odd number and the median of Q consecutive integers is 120, what is the largest of these integers?

A $\frac{Q-1}{2} + 120$

B $\frac{Q}{2} + 119$

C $\frac{Q}{2} + 120$

D $\frac{Q+119}{2}$

E $\frac{Q+120}{2}$

If m is the average (arithmetic mean) of the first 10 positive multiples of 5 and if M is the median of the first 10 positive multiples of 5, what is the value of M-m?

A 5

B 0

C 5

D 25

E 27.5

5 5×2 5×3。。。。。。5×10
Mean=55/2
Median=（5×5+5×6）/2=55/2

If a, b, c, and d are positive numbers, is $\frac{a}{b} < \frac{c}{d}$? ad＜bc?

(1) $0 < \frac{(c-a)}{(d-b)}$ （c-a）(d-b）＞0 cd-cb+ab＞ad

(2)$(\frac{ad}{bc})^2 < \frac{ad}{bc}$ ad/bc ＜1 ad＜bc S

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 Statements (1) and (2) TOGETHER are NOT sufficient.

If a=-0.3 which of the following is true?

A $a < a^2 < a^3$

B $a < a^3 < a^2$

C $a^2 < a < a^3$

D $a^2 < a^3 < a$

E $a^3 < a < a^2$

When positive integer x is divided by positive integer y, the remainder is 9. If $\frac{x}{y} = 96.12$, what is the value of y?

A 96

B 75

C 48

D 25

E 12

If n is an integer and $2 < n < 6$, what is the value of n?

(1)n is a factor of 15.

(2)n is a factor of 21.

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D EACH statement ALONE is sufficient.

E Statements (1) and (2) TOGETHER are NOT sufficient.

What is the remainder, after division by 100, of 7^{10}?

A 1

B 7

C 43

D 49

E 70

In the xy-plane,region R consists of all the points (x, y) such that $2x + 3y = 6$. Is the point (r, s)in region R ?

(1)$3r + 2s = 6$

(2)$r = 3$ and $s = 2$

A Statement (1) ALONE is sufficient, but statement (2) alone is not sufficient.

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$$\frac{(0.0036)(2.8)}{(0.04)(0.1)(0.003)} =$$

A 840.0

分子36×28×10^-5　　3×28
分母4×1×3×10^-6　　10^（-1）

B 84.0

C 8.4

D 0.84

E 0.084

If d is the standard deviation of x, yand z, what is the standard deviation of x + 5, y + 5, and z + 5 ?

A d

B 3d

C 15d

D d + 5

E d + 15

If n = 4p, where p is a prime number greater than 2, how many different positive even divisors does n have, including n ?

A Two

B Three

C Four

D Six

E Eight

2^2p p=odd

2 4 2p 4p

if $\frac{1}{x} - \frac{1}{x+1} = \frac{1}{x+4}$ then x could be

A 0

B -1

C -2

-1/2+1=1/2 ½ √

D -3

E -4

List T consists of 30 positive decimals, none of which is an integer, and the sum of the 30 decimals is S. The estimated sum of the 30 decimals, £, is defined as follows. Each decimal in T whose tenths digit is even is rounded up to the nearest integer, and each decimal in T whose tenths digit is odd is rounded down to the nearest integer; E is the sum of the resulting integers. If $\frac{1}{3}$ of the decimals in T have a tenths digit that is even, which of the following is a possible value of E - S ?

I.-16

II.6

III.10

A I only

B I and II only

C I and III only

D II and III only

E I,II, and III

10个数 tenths 偶数 进位
0.2 +0.8 0.8+0.2 min plus +2 max plus +8

20个数 tenths odd down（舍）
0.1-0.1 0.9-0.9 min m -2 max m -18

E-S max 8-2=6
min 2-18=-12