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GRE数学

模考3-Section 1

MAKE IT EASY

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1. $y > 3995$

Quantity A	Quantity B
$\frac{y}{1000}$	$\frac{4}{}$

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.

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2. When the positive number k is multiplied by itself, the result is 1/2 of *k*.

Quantity A	Quantity B
$\frac{k}{k}$	$\frac{1}{4}$

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.

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3. $n \neq 0$ and $n \neq -1$

Quantity A	Quantity B
$\dfrac{n+n^2}{n^3+n^4}$	$\dfrac{1}{n^2}$

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.

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4. $n = 75k$

k is an odd integer

Quantity A	*Quantity B*
The least positive prime factor of n	5

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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5. Ann and Bill are each to take a portion of a pie
Quantity A: Ann's portion if she gives Bill of 1/4 the pie and then takes 1/2 of the remainder of herself
Quantity B: Ann's portion if she takes 1/2 of the pie and then gives Bill 1/6 of that half

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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6. For all positive numbers u and v, the operation □ is defined by u□v=(u+v)/uv. The numbers a and b are positive.
Quantity A: (2a)□(2b)
Quantity B: a□(2b)

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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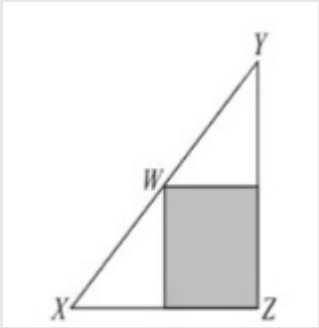
7. The shaded region is square, and the length if XW is greater than the length of WY.
Quantity A: The length of XZ
Quantity B: The length of YZ



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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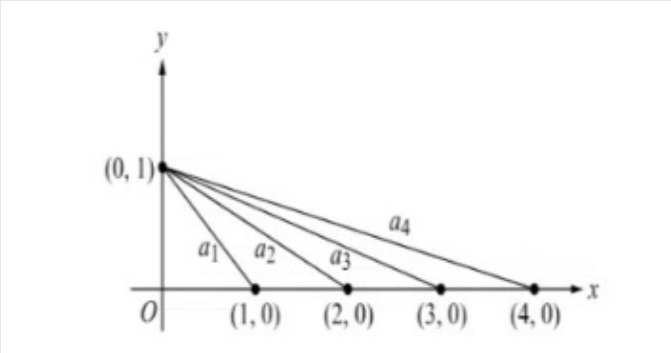
8. In the sequence a_1, a_2, a_3, …, the n term a_n s the distance in the xy-plane between (0,1) and (n,0) for each positive integer n. The figure shows the first four terms of the sequence.
Quantity A: a_{20}
Quantity B: $\sqrt{401}$



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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9. A number is to be randomly selected from the numbers that are factors of 48, including 1 and 48. What is the probability that the number selected will be a multiple of 3?

A. 1/5
B. 1/4
C. 1/3
D. 1/2
E. 2/3

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10. On October 1, 2006, at a certain elementary school, the ratio of the number of students to the number of teachers was 34 to 1. By October 1, 2007, the number of students had increased by 5 percent and the number of teachers had increased by 2 percent from the previous year. What was the ratio of the number of students to the number of teachers at the school on October 1, 2007?

A. 32 to 1
B. 33 to 1
C. 34 to 1
D. 35 to 1
E. 36 to 1

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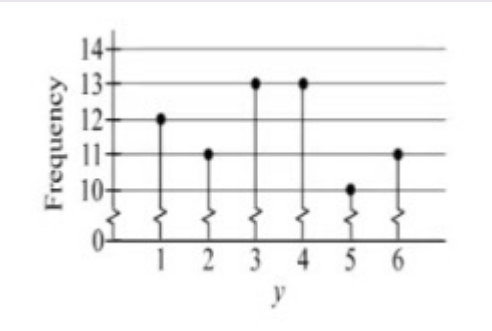
11. The variable y takes on the values 1, 2, 3, 4, 5, or 6. The graph shows a frequency distribution of 70 values of y. Which of the following is closest to the average (arithmetic mean) of the 70 values?



A. 3.0
B. 3.2
C. 3.3
D. 3.4
E. 3.6

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12. The 9 computers in an office are to be interconnected by cables so that each computer is connected directly to each of the other computers. If each cable that connects a pair of the computers counts as one cable, how many cables are needed?

A. 36
B. 72
C. 81
D. 90
E. 91

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13.

Day	Store A	Store B
Monday	$125.00	$125.00
Tuesday	Monday's price discounted by 10%	$125.00
Wednesday	Tuesday's price discounted by 20%	$125.00
Thursday	Wednesday's price discounted by $10.00	$125.00
Friday	Thursday's price	Thursday's price discounted by x%

Stores A and B sold a certain briefcase model last week at the prices shown in the table above. If the price of the briefcase was the same at both stores on Friday, what is the value of x?

x=_____

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14. Fourth - Quarter Earnings for Selected Economics Sectors, 2004

Sector	Number of Companies	Earnings (in billions)	Percent Change in Earnings from Fourth Quarter of 2003
Consumer goods	104	$ 17.0	+30%
Consumer services	175	$ 13.0	-4%
Finance	216	$ 45.3	+17%
Healthcare	111	$ 10.7	-3%
Heavy industry	177	$ 20.3	+26%
Oil and gas	45	$ 20.6	+69%
Technology	219	$ 19.4	+37%
Total	1047	$ 146.3	

For the companies in the oil and gas sector, approximately what were the average earnings per company, in billions of dollars, for the fourth quarter of 2004?

A. $ 0.45
B. $ 0.60
C. $ 0.85
D. $ 1.10
E. $ 2.20

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15.

Sector	Number of Companies	Earnings (in billions)	Percent Change in Earnings from Fourth Quarter of 2003
Consumer goods	104	$ 17.0	+30%
Consumer services	175	$ 13.0	-4%
Finance	216	$ 45.3	+17%
Healthcare	111	$ 10.7	-3%
Heavy industry	177	$ 20.3	+26%
Oil and gas	45	$ 20.6	+69%
Technology	219	$ 19.4	+37%
Total	1047	$ 146.3	

In 2004, what was the median of the fourth-quarter earnings for the seven sectors shown in the table?

$ _____billion.

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16.

Sector	Number of Companies	Earnings (in billions)	Percent Change in Earnings from Fourth Quarter of 2003
Consumer goods	104	$ 17.0	+30%
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Heavy industry	177	$ 20.3	+26%
Oil and gas	45	$ 20.6	+69%
Technology	219	$ 19.4	+37%
Total	1047	$ 146.3	

For the fourth quarter of 2004, approximately what was the ratio of the average earnings per company in the finance sector to the average earnings per company in the heath care sector ?

A. 6 to 1
B. 5 to 1
C. 4 to 1
D. 3 to 1
E. 2 to 1

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17. The units of 7^{34} is x, and the units of 6^{34} is y. What is the value of the product xy?

xy=_____

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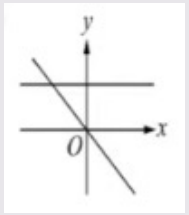
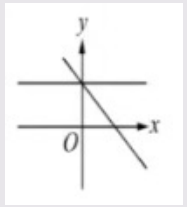
18. $y=ax+b$, where $a<0$, and $b=0$.
$y=cx+d$, where $c=0$, and $d>0$.
Which of the following best represents the graphs of the equations shown?

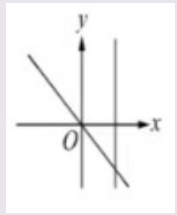
A.



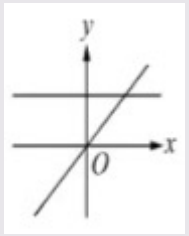
B.



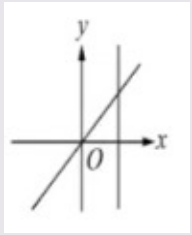
C.



D.



E.



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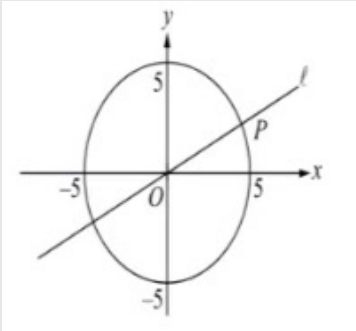
19. The circle in the xy-plane shown has radius 5 and center O. Line l has a slope of $\frac{1}{2}$ and passes through the center if the circle. P is the point in the first quadrant at which l intersects the circle. Which of the following represents the coordinates of point P?



A. $\left\{5, \frac{5}{2}\right\}$
B. $\{4, 2\sqrt{5}\}$
C. $\{4, 3\}$
D. $\left\{\sqrt{5}, \frac{\sqrt{5}}{2}\right\}$
E. $\{2\sqrt{5}, \sqrt{5}\}$

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20. Of the 150 students at a certain school, 55 are taking math and 90 are taking English. If 10 of the students are taking both math and English, which of the following statements are true about the students at the school?
Indicate all such statements.

A. The number of students taking neither math nor English is 15.
B. The number of students taking English but not math is 80.
C. The number of students taking math but not English is less than the number taking English but not math.

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Thanks

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