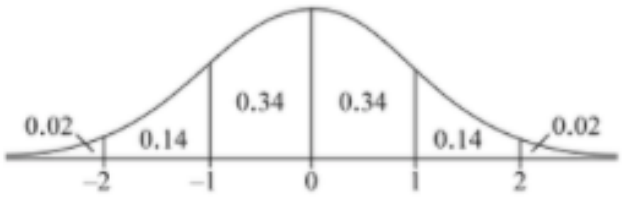
1.

x is an integer.

Quantity A	Quantity B
2^{x+2}	$(4)(2^x)$

- ◯ Quantity A is greater.
- ◯ Quantity B is greater.
- ◯ The two quantities are equal.
- ◯ The relationship cannot be determined from the information given.

2.



The figure shows the standard normal distribution, with mean 0 and standard deviation 1, including approximate probabilities corresponding to the six intervals shown.

A random variable W is normally distributed with mean 3.5 and standard deviation 0.5.

Quantity A	Quantity B
The probability that $3.5 < W < 4.5$	The probability that $4.0 < W < 5.0$

- ◯ Quantity A is greater.
- ◯ Quantity B is greater.
- ◯ The two quantities are equal.
- ◯ The relationship cannot be determined from the information given.

3.

$t>0$

$x<2t$

$y>5t$

Quantity A: $\frac{y-x}{3}$

Quantity B: t

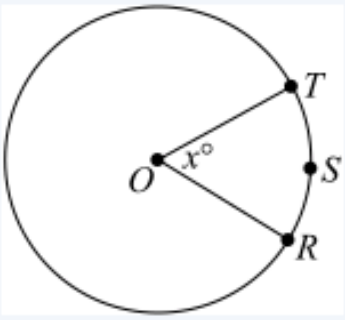
A Quantity A is greater.

B Quantity B is greater.

C The two quantities are equal.

D The relationship cannot be determined from the information given.

4.



Point O is the center of the circle. Line segment OT and arc RST both have length 4.

Quantity A:x

Quantity B:60

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.

5.

$$(x+5)^2-(y-3)^2=0$$

$$x+y=2$$

Quantity A	Quantity B
$x-y$	0

- Quantity A is greater.
- Quantity B is greater.
- The two quantities are equal.
- The relationship cannot be determined from the information given.

6.

$x \neq 1$

Quantity A: $\frac{x^2-2}{x-1}$

Quantity B: x+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.

7.

Quantity A	Quantity B
$\frac{(-4)^{-3}}{4^{-5}}$	$\frac{(-4)^{3}}{4^{5}}$

- ○ Quantity A is greater.
- ○ Quantity B is greater.
- ○ The two quantities are equal.
- ○ The relationship cannot be determined from the information given.

8.

Quantity A: The standard deviation of the heights of 12 people whose heights range from 62 inches to 74 inches, inclusive

Quantity B: The standard deviation of the heights of 12 people whose heights range from 60 inches to 72 inches, inclusive

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.

9.

Weekly Rental of Storage Sheds

	Capacity (square feet)	Cost
Small	x	\$12
Medium	$3x$	\$28
Large	$4x$	\$39

If a company required a total storage capacity equal to the combined storage capacity of 16 small sheds, which of the following rentals would cost the least per week for the company`s storage capacity requirements?

A 4 medium sheds and 4 small sheds

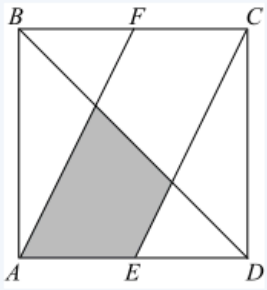
B 5 medium sheds and 1 small shed

C 1 large shed and 4 medium sheds

D 2 large sheds, 2 medium sheds, and 2 small sheds

E 3 large sheds, 1 medium shed, and 1 small shed

10.



In the figure, ABCD is a square, E is the midpoint of side AD, and F is the midpoint of side BC. The area of the shaded region is what fraction of the area of square region ABCD?

A $\frac{1}{8}$

B $\frac{1}{6}$

C $\frac{1}{5}$

D $\frac{1}{4}$

E $\frac{1}{3}$

11.

When the integer n is divided by 20, the remainder is 15. Which of the following must be a divisor of n?

A 3

B 5

C 6

D 7

E 10

12.

Twenty-three cards are numbered consecutively from 1 through 23. If one card is to be randomly selected from the 23 cards, what is the probability that the number on the selected card will be a multiple of 3 or a multiple of 4 or a multiple of both 3 and 4?

A $\frac{7}{\text{twenty three}}$

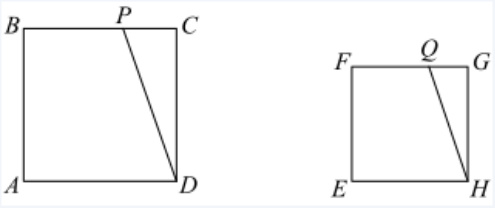
B $\frac{9}{\text{twenty three}}$

C $\frac{11}{\text{twenty three}}$

D $\frac{12}{\text{twenty three}}$

E $\frac{13}{\text{twenty three}}$

13.



In the figures shown, ABCD is a square with sides of length 12, and EFGH is a square with sides of length 9. If the ratio of the area of square ABCD to the area of square EFGH is equal to the ratio of the area of triangle PCD to the area of triangle QGH, what is the ratio of the length of PC to the length of QG?

Give your answer as a fraction.

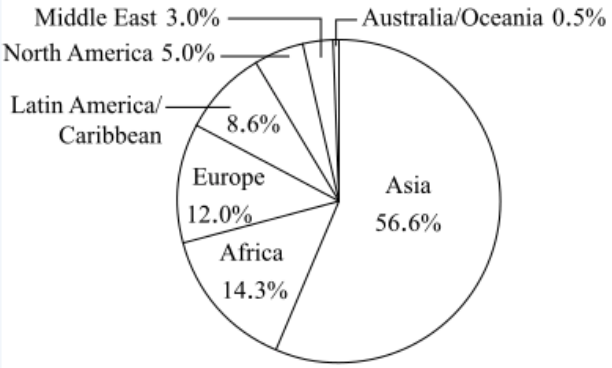
____

14.

Subject material:

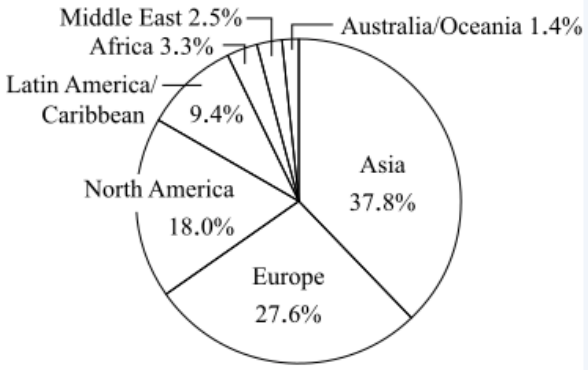
World Population and Internet Use, March 2008

Distribution of World Population by Region



Total: 6,676 million

Distribution of Internet Users by Region



Total: 1,355 million

Question Question Question

Which of the following is closest to the fraction of the world population who were Internet users?

A $\frac{1}{20}$

B $\frac{1}{10}$

C $\frac{1}{5}$

D $\frac{1}{3}$

E $\frac{1}{2}$

15.

For which of the following regions was the number of Internet users greater than the population of the Middle East?

Indicate all such regions.

A Africa

B Asia

C Europe

D Latin America/Caribbean

E North America

16.

The number of Internet users in Europe and Asia was closest to what percent of the world population?

A 13.3%

B 44.6%

C 65.4%

D 68.6%

E 70.9%

17.

At 12:00 noon a hose began draining water from a pool at a constant rate of 120 ounces per minute. At 2:00 that afternoon, an additional hose began draining water from the pool, increasing the constant rate at which the water was being drained to 240 ounces per minute. The pool was empty before 4:30 that afternoon. Which of the following could have been the amount of water, in ounces, in the pool at 12:00 noon that day?

Indicate all such amounts.

A 42,640

B 46,080

C 50,250

D 52,540

E 55,320

18.

The sequence of numbers $C_1, C_2, C_3, \ldots C_n$. is defined by $C_1 = 2$, $C_2 =$ and $C_n = C_{n-1} +$ $n$for each integer n greater than 2. What is the value of C_6 ?

A 12

B 17

C 18

D 22

E 24

19.

Square S is inscribed in circle C, and circle R is inscribed in square S. What is the ratio of the area of circle C to the area of circle R ?

- ○ 2 to 1
- ○ 1 to 1
- ○ 2 to $\sqrt{2}$
- ○ 1 to 2
- ○ 1 to 3

20.

A product is on sale for a discounted price that is 20 percent less than its regular price. The regular price is what percent greater than the discounted price?

_____%

Answer Key: CAABBDBDCDBC(4/3)C(BCE)A(ABC)DA(.25)