1.

$y \geq 0$

Quantity A: $(\sqrt{y+5} - \sqrt{y})(\sqrt{y+5} + \sqrt{y})$

Quantity B: 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.

2.

In the xy-plane, the graph of $y = g(x)$ intersects the x-axis at 3 points.

Quantity A: The number of points at which the graph of $y = g(x-5)$ intersects the x-axis

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.

3.

m and n are positive integers.

n and n+2 are factors of m.

Quantity A: $\frac{m}{n}$

Quantity B: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.

4.

x>7,999

Quantity A:The digit in the thousands place of x

Quantity B: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.

5.

n is a negative integer, and p is a positive integer.

Quantity A:The product of the integers from n to p, inclusive

Quantity B:0

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.

6.

x percent of y is $\frac{3}{4}$ of z, where xyz≠0.

Quantity A: $\frac{xy}{z}$

Quantity B: 75

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.

| | Class Mean Score | Neva's Score | Neva's Percentile Rank |
|---|---|---|---|
| History Test | 74 | 80 | 85th |
| Biology Test | 68 | 80 | $x$th |

Quantity A:x

Quantity B:85

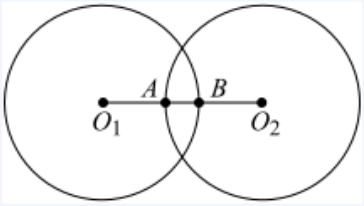
A Quantity A is greater.

B Quantity B is greater.

C The two quantities are equal.

D The relationship cannot be determined from the information given.

8.




In the figure above, the circles centered at $O_1$ and $O_2$ have radii of equal length. If $O_1O_2 = 9$and AB=3, what is the circumference of the circle centered at $O_1$ ?

A 6π

B 9π

C 12π

D 18π

E 36π

9.

If n is an integer, what is the least value of n for which $4^{-N} < \frac{1}{512}$ ?

A 4

B 5

C 6

D 7

E 8

10.

On the outside, a closed rectangular packing box, made out of cardboard, is 12 inches long, 18 inches wide, and 24 inches high. If the cardboard is $\frac{1}{4}$ inch thick, which of the following is closest to the volume inside the box, in cubic inches?

A 3,700

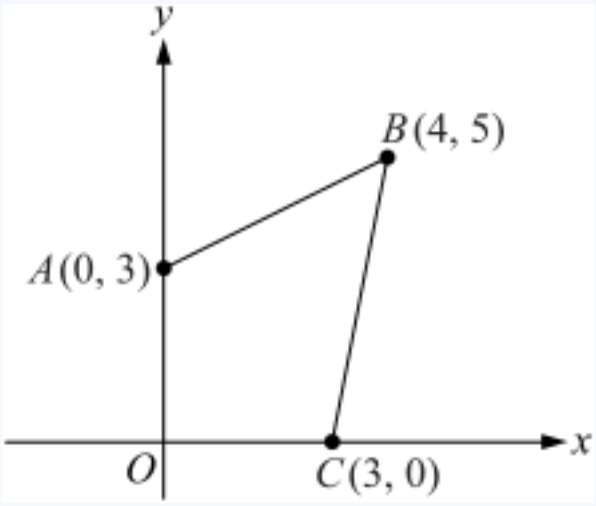
B 3,900

C 4,300

D 4,700

E 5,200

11.




In the xy-plane above, what is the area of quadrilateral OABC?

A 15

B $13\frac{1}{2}$

C $11\frac{1}{4}$

D $10\frac{1}{2}$

E 7

12.

The average (arithmetic mean) ages, in years, of the people in group A and group B are 41 and 36, respectively. The average age, in years, of the people in the two groups combined is 38. If there are no people in both group A and group B, what fraction of the people in the two groups combined are in group B?

A $\frac{2}{5}$

B $\frac{1}{2}$

C $\frac{3}{5}$

D $\frac{2}{3}$

E $\frac{3}{4}$

13.

x(x+3)(x-5)>0

Which of the following inequalities specify values of x that satisfy the inequality above?

Indicate all such inequalities.

A $x<-3$

B $-3 < x < 0$

C $0 < x < 5$

D $x>5$

14.

Subject material:

**Cost of Selected Home Remodeling Projects and Return* on the Project When Home Is Sold, for City *X* in 1999**

| Project | Average Cost** | Average Return** |
|---|---|---|
| Attic bedroom addition | $32,700 | $28,000 |
| Bathroom remodeling | $10,400 | $10,200 |
| Deck addition | $9,100 | $4,400 |
| Family room addition | $35,300 | $24,400 |
| Home office addition | $9,500 | $6,100 |
| Major kitchen remodeling | $35,400 | $35,300 |
| Minor kitchen remodeling | $10,000 | $7,100 |
| Window replacement | $8,600 | $2,200 |

*Increase in selling price
**Arithmetic mean for all applicable remodeling projects in City *X* in 1999

Question Question Question

What is the range of the average costs for the eight home remodeling projects listed?

A $24,100

B $24,700

C $25,400

D $26,100

E $26,800

15.

In City X, the percent increase from 1997 to 1999 in the average cost of a deck addition was 45 percent, and the percent increase from 1994 to 1997 in the average cost of a deck addition was 26 percent. Which of the following expressions represents the average cost, in dollars, of a deck addition in City X in 1994?

A (1.45)(1.26)(9,100)

B (0.45)(0.26)(9,100)

C $\frac{(1.26)(9,100)}{1.45}$

D $\frac{(9,100)}{(1.45)(1.26)}$

E $\frac{(9,100)}{(0.45)(0.26)}$

16.

For how many of the remodeling projects listed is the average return on the project when the home is sold less than 75 percent of the average cost of the project?

A Three

B Four

C Five

D Six

E Seven

17.

A grocery store had 105 pieces of fruit for sale consisting of apples, mangoes, and peaches.

Which of the following statements individually provide(s) sufficient additional information to determine the number of apples for sale at the grocery store?

Indicate all such statements.

A The total number of apples and peaches was 62.

B The ratio of the number of apples to the total number of mangoes and peaches was 1 to 6.

C The ratio of the number of mangoes to the number of peaches was 43 to 47.

18.

Of the 36 students in a certain class, 10 are in the chess club and 13 are in the bridge club. If 20 of the students are not in either club, how many of the students are in only one of the two clubs?

A 7

B 9

C 14

D 16

E 23

19.

How many integers n between 100 and 299 are there such that the hundreds digit of n is less than the tens digit of n and the tens digit of n is less than the units digit of n?

A 48

B 49

C 50

D 51

E 52

20.

How many different numbers $x$ satisfy the equation $|x^2 - 5x| = 1$?

Answer Key: CCDDCCDCBDBC(BD)EDC(BC)BB(4)