

1.

$$n > 1$$

Quantity A

$$125n$$

Quantity B

$$215(n-1)$$

- 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.

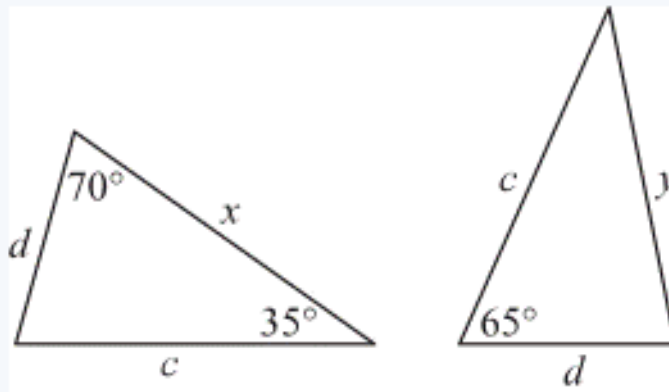
2.

Quantity A: The area of an isosceles triangle that has one right angle and two sides of length 2

Quantity B: The area of an equilateral triangle that has sides of length 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.

3.



Quantity A: x

Quantity B: y

- 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.

Quantity A: The number of integers from 1 to 300 that are divisible by both 5 and 9

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.

A car travels d miles along a stretch of highway at a constant speed of r miles per hour and then travels d miles back to its starting point at a constant speed of s miles per hour, where $r > s$.

Quantity A: The time taken by the car to travel the d miles at r miles per hour

Quantity B: $\frac{d}{s}$ hours

- 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.

$$-10 < x + y < 20$$

$$5 < x < 10$$

Quantity A: y

Quantity B: -15

- 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.

$R = (2^{16}) (5^{34}) (N^{50})$, where N is a positive integer.

Quantity A: \sqrt{R}

Quantity B: $\frac{R}{10}$

- 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.

$$2s = r + t$$

Quantity A: The median of r , s , and t

Quantity B: s

- 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.

A copy machine was used to produce two smaller versions of a rectangular picture. Each dimension of the original picture was reduced by 20 percent to produce the first smaller version, and then each dimension of the first smaller version was reduced by 15 percent to produce the second smaller version. Each dimension of the second smaller version was what percent of the corresponding dimension of the original picture?

- A 35%
- B 38%
- C 65%
- D 68%
- E 70%

10.

A metal right circular cylinder is 20 centimeters tall, has a base with diameter 8 centimeters, and is open at both ends. Which of the following is closest to the outside surface area of the cylinder, in square centimeters?

- A 450
- B 475
- C 500
- D 525
- E 550

11.

Matt's Coins

Coin Value	Number of Coins
\$0.01	3
\$0.05	3
\$0.10	3
\$0.25	1

Matt has 10 coins, and their values are shown in the table. If Matt randomly selects 4 of the coins, which of the following could be the total value of the 4 coins?

Indicate all such values.

- A \$0.25
- B \$0.26
- C \$0.27
- D \$0.28

12.

$$\text{If } \frac{x+1}{6x} + \frac{x+1}{2x} = 1, \text{ what is the value of } x?$$

13.

x, 12, 11

If the standard deviation of the three numbers in the list above is 4, what is the standard deviation of x+9, 21, and 20?

- A 4
- B 13
- C 31
- D 36
- E 108

14.

According to a projection made in January 2016, for each of the three years following 2015, annual sales would increase by an amount equal to $\frac{1}{2}$ of the increase in annual sales from 2014 to 2015. According to this projection, approximately what would annual sales be for the year 2018?

- A \$2,200 million
- B \$2,425 million
- C \$3,450 million
- D \$4,050 million
- E \$4,875 million

15.

Subject material:

Annual Sales and Annual Earnings of Star Discount Stores 2010–2015



Question **Question** Question

Based on the information given, which of the following statements are true?

Indicate all such statements.

- A For the years shown, the range of the annual earnings was greater than \$30 million.
- B From 2010 to 2015, both annual sales and annual earnings more than doubled.
- C For each of the years shown, annual earnings were more than 1 percent of annual sales.

16.

The number of stores owned by Star Discount in 2015 was twice the number owned by Star Discount in 2010. By approximately what percent did the average annual earnings per store increase from 2010 to 2015?

- A 5%
- B 12%
- C 25%
- D 33%
- E 40%

17.

In a certain list of positive integers, the ratio of the number of odd integers to the number of even integers is 7 to 4. One-fourth of the number of odd integers is what fraction of the total number of integers in the list?

- A $\frac{7}{44}$
- B $\frac{3}{16}$
- C $\frac{11}{28}$
- D $\frac{7}{16}$
- E $\frac{9}{16}$

18.

If the circumference of a circle is 6, what is the area of the circle?

- A $\frac{6}{\pi^2}$
- B $\frac{9}{\pi}$
- C 6π
- D 9π
- E 36π

19.

In the xy -plane, the graph of the equation $y = -\frac{1}{2}x + 3$ passes through the point $(c, -c)$. What is the value of c ?

- A -6
- B -3
- C 2
- D 3
- E 6

20.

On a final exam, 75 percent of a class had scores that were greater than 70, and 60 percent of the class had scores that were less than 85. What percent of the class had scores that were greater than 70 but less than 85?

_____ %

Answer Key: DAACBDBCDC(ABD)(2)ABADABA(35)