1. If the average (arithmetic mean) of and is , and the average of and is , then

(a) Cannot be determined

(b)

(c)

(d)

(e)

1. If the average (arithmetic mean) of seven consecutive integers is then the product of the greatest and least integer is

(a)

(b)

(c)

(d)

(e)

1. If is an integer, which of the following could be the median of the set

Indicate all possible medians.

(a)

(b)

(c)

(d)

(e)

(f)

(g)

|  |  |
| --- | --- |
| Column | Column |
| Average (arithmetic mean) of integers from - to inclusive. | Average (arithmetic mean) of integers from - to inclusive. |

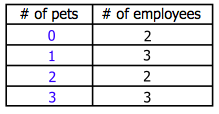
(a) The quantity in Column is greater

(b) The quantity in Column is greater

(c) The two quantities are equal

(d) The relationship cannot be determined from the information given

1. There are employees in an office. The table shows how many employees have or pets. If the office manager were included in the table, the average (arithmetic mean) number of pets per person would equal the median number of pets per person. How many pets does the office manager have?



(a)

(b)

(c)

(d)

(e)

1. If the average (arithmetic mean) of is , then the average of , and is

(a)

(b)

(c)

(d)

(e)

1. Set

If the median of set is and , what is the range of set ?

1. In a certain class, students are years old, and the remaining students are years old. What is the average (arithmetic mean) age of all students in the class?

(a)

(b)

(c)

(d)

(e)

|  |  |
| --- | --- |
| Column | Column |
| Average (arithmetic mean) of and | Average (arithmetic mean) of and |

(a) The quantity in Column is greater

(b) The quantity in Column is greater

(c) The two quantities are equal

(d) The relationship cannot be determined from the information given

1. Jack has cats and dog. If the dog’s weight is times the average (arithmetic mean) weight of the cats, then the dog’s weight is what fraction of the total weight of all animals?

(a)

(b)

(c)

(d)

(e)

1. The average (arithmetic mean) of different integers is. If the largest integer is , what is the least possible value of the smallest integer?

(a)

(b)

(c)

(d)

(e)

1. The average (arithmetic mean) weight of children is pounds.

No child weighs exactly pounds.

|  |  |
| --- | --- |
| Column | Column |
| Number of children who weigh more than pounds. | Number of children who weigh less than pounds. |

(a) The quantity in Column is greater

(b) The quantity in Column is greater

(c) The two quantities are equal

(d) The relationship cannot be determined from the information given

1. Positive integersand are such that . If the average (arithmetic mean) of the five numbers is and , then what is the greatest possible range of the five numbers?

(a)

(b)

(c)

(d)

(e)

1. The median of and is .

|  |  |
| --- | --- |
| Column | Column |
|  |  |

(a) The quantity in Column is greater

(b) The quantity in Column is greater

(c) The two quantities are equal

(d) The relationship cannot be determined from the information given

1. and are different positive numbers.

The average (arithmetic mean) of and is .

The average of and is .

|  |  |
| --- | --- |
| Column | Column |
| The greatest possible value of |  |

(a) The quantity in Column is greater

(b) The quantity in Column is greater

(c) The two quantities are equal

(d) The relationship cannot be determined from the information given

1. The average (arithmetic mean) of x , and is .

|  |  |
| --- | --- |
| Column | Column |
| Average of and |  |

(a) The quantity in Column is greater

(b) The quantity in Column is greater

(c) The two quantities are equal

(d) The relationship cannot be determined from the information given

1. In a group of people, the average (arithmetic mean) age of the females is , and the average age of the males is .

|  |  |
| --- | --- |
| Column | Column |
| Average age of all people |  |

(a) The quantity in Column is greater

(b) The quantity in Column is greater

(c) The two quantities are equal

(d) The relationship cannot be determined from the information given

1. What is the average (arithmetic mean) of and ?

(a)

(b)

(c)

(d)

(e)

1. If a set of numbers is normally distributed with a mean of and a standard deviation of , approximately what percent of the numbers are greater than and less than ?

Give your answer to the nearest whole percent.

1. In a population of chickens, the average (arithmetic mean) weight is pounds, and the standard deviation is pounds. Which of the following weights (in pounds) are within units of standard deviation of the mean?

Indicate all weights.

(a)

(b)

(c)

(d)

(e)

(f)

(g)

(h)

1. Which of the following sets of numbers has the greatest standard deviation?

(a)

(b)

(c)

(d)

(e)

1. Set consists of numbers. The average (arithmetic mean) of set is , and the standard deviation is . Which of the following two numbers, when added to set , will decrease the set’s standard deviation by the greatest amount?

(a)

(b)

(c)

(d)

(e)

1. A group of 20 values has a mean of 85 and a median of 80. A different group of 30 values has a mean of 75 and a median of 72.

(a) What is the mean of the 50 values?

(b) What is the median of the 50 values?

1. Stats-R-Us laboratories has conducted a survey to determine how many strawberries are eaten by 100,000 people during a one year period. The data indicate that the number of strawberries eaten is approximately normally distributed with a mean of 29 strawberries, and a standard deviation of 4 strawberries eaten by each person. According to this data, approximately how many of the surveyed people ate more than 25 strawberries during the course of the year?
   1. 16,000
   2. 48,000
   3. 50,000
   4. 68,000
   5. 84,000
2. Sasha took a nationwide standardized test that is graded on a scale from 20 to 60 Sasha got one of the best scores recorded on that this test.

**Column A:** Sasha’s score

**Column B**: the percentile of Sasha’s score

(A) The quantity in Column A is greater.

(B) The quantity in Column B is greater.

(C) The two quantities are equal.

(D) The relationship cannot be determined from the information given.

1. Ann is 4 years older than Bob and 6 years older than Carla.

**Column A**: The median age of Ann, Bob and Carla

**Column B:** The average age of Ann, Bob and Carla

(A) The quantity in Column A is greater.

(B) The quantity in Column B is greater.

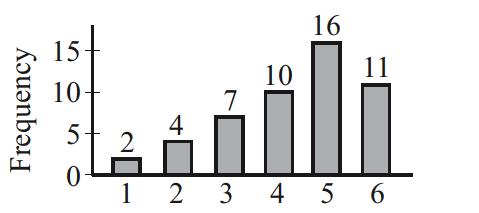
(C) The two quantities are equal.

(D) The relationship cannot be determined from the information given.

1. The median income of a group of College C graduates six months after graduation was $3,000 higher than the median income of a group of College D graduates six months after graduation.

**Quantity A:** The 75th percentile of theincomes of the group ofCollege C graduates sixmonths after graduation

**Quantity B:** The 75th percentile of the incomes of the group of College D graduates six months after graduation

****

1. The graph above shows the frequency distribution of 50 integer values varying from 1 to 6.

**Quantity A:** The average (arithmetic mean) of the 50 values

**Quantity B:** The median of the 50 values

1. The range of the heights of the female students in a certain class is 13.2 inches, and the range of the heights of the male students in the class is 15.4 inches. Which of the following statements individually provide(s) sufficient additional information to determine the range of the heights of all the students in the class?

Indicate all such statements.

* 1. The tallest male student in the class is 5.8 inches taller than the tallest female student in the class. T
  2. The median height of the male students in the class is 1.1 inches greater than the median height of the female students in the class. F
  3. The average (arithmetic mean) height of the male students in the class is 4.6 inches greater than the average height of the female students in the class. F

1. The height of women in Dewaria follows a normal distribution with mean 160 cm and a standard deviation of 6 cm. In a normal distribution, only 0.0063% of the population is not within 4 standard deviations of the mean. If 5 women are more than 184 cm tall, then which of the following is closest to the number of women who live in Dewaria?
2. 16,000
3. 40,000
4. 80,000
5. 100,000
6. 160,000