

SAT Statistics Worksheet

Name: _____ Date: _____

Circle one answer for each question. Use the blank space for calculations. A calculator is allowed.

1. What is the mean of 4, 6, 8, 10, and 12?

- A. 6
- B. 7
- C. 8
- D. 10

2. What is the median of 9, 2, 7, 4, and 8?

- A. 4
- B. 6
- C. 7
- D. 8

3. What is the range of 3, 7, 11, 14, and 18?

- A. 11
- B. 14
- C. 15
- D. 18

4. Four numbers have a mean of 12. A fifth number, 22, is added. What is the new mean?
- A. 12
 - B. 14
 - C. 16
 - D. 17
5. Each value in a data set is increased by 7. How does the mean change?
- A. It decreases by 7.
 - B. It stays the same.
 - C. It increases by 7.
 - D. It is multiplied by 7.
6. Set A is 5, 5, 5, 5. Set B is 2, 4, 6, 8. Which statement is true?
- A. A has the greater mean.
 - B. B has the greater mean.
 - C. They have the same mean, but B has the greater standard deviation.
 - D. They have the same standard deviation.

7.

Score	Frequency
2	1
3	2
4	1

The table gives test scores and their frequencies. What is the mean score?

- A. 2
- B. 2.5
- C. 3
- D. 4

8. What is the median of 1, 3, 5, 7, 9, and 11?

- A. 5
- B. 6
- C. 7
- D. 8

9. In the data set 10, 11, 12, 13, 14, the value 14 is replaced by 100. What happens to the median?

- A. It decreases.
- B. It stays 12.
- C. It increases to 13.
- D. It increases to 29.2.

10. A data set has mean 20. Every value is multiplied by 3. What is the new mean?

- A. 20
- B. 23
- C. 40
- D. 60

11. Five values have sum 65. Four of them are 8, 10, 12, and 15. What is the fifth value?

- A. 13
- B. 15
- C. 18
- D. 20

12. Two classes have 10 and 20 students, respectively. Their mean quiz scores are 80 and 95. What is the combined mean score?

- A. 85
- B. 87.5
- C. 90
- D. 92.5

Answer key

1 C · 2 C · 3 C · 4 B · 5 C · 6 C · 7 C · 8 B · 9 B · 10 D · 11 D · 12 C

1. C: 8

The sum is 40 and there are 5 values. Dividing 40 by 5 gives a mean of 8.

2. C: 7

Sort the values as 2, 4, 7, 8, 9. The middle value is 7.

3. C: 15

Range is maximum minus minimum. Here $18 - 3 = 15$.

4. B: 14

The original sum is $4(12) = 48$. The new sum is 70 across 5 numbers, giving mean $\frac{70}{5} = 14$.

5. C: It increases by 7.

Adding the same constant to every observation adds that constant to the mean. It does not multiply the mean.

6. C: They have the same mean, but B has the greater standard deviation.

Both means are 5. Set A has no spread and standard deviation zero, while B has values at several distances from 5.

7. C: 3

The weighted total is $2(1) + 3(2) + 4(1) = 12$. There are 4 observations, so the mean is $\frac{12}{4} = 3$.

8. B: 6

With six sorted values, average the third and fourth: $\frac{5+7}{2} = 6$.

9. B: It stays 12.

The replacement changes the largest value but leaves the sorted middle value, 12, unchanged. The mean does change.

10. D: 60

Multiplying every observation by 3 also multiplies their sum by 3 without changing their count. The mean becomes $3(20) = 60$.

11. D: 20

The four known values sum to 45. Subtracting 45 from the total 65 gives the missing value, 20.

12. C: 90

The combined score total is $10(80) + 20(95) = 2700$. Divide by 30 students to get 90, using a weighted mean.