

STANDARD VII: The student will be able to solve problems involving a variety of algebraic and geometric concepts.

OBJECTIVE

5. Determine measures of central tendency.

ELIGIBLE CONTENT

- The word “mean” will be used for the arithmetic average.
- The set of numbers used to assess the range will not be in numerical order.
- Decimals up to hundredths may be used.
- Decimals with different numbers of decimal digits may be used in the same item.
- Frequency diagrams may be used.

SAMPLE ITEMS

1

Seven students in gym class shot 20 free throws each. The number of free throws made successfully is shown in the table below.

FREE THROW RESULTS

| | | | | | | | |
|-------------------------------|---|----|----|----|---|----|----|
| Student | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Successful Free Throws | 5 | 15 | 13 | 15 | 8 | 10 | 18 |

What is the median number of free throws made successfully?

- A** 12
- B** 13
- C** 14
- D** 15

2

The average high temperatures for a city during the month of October are shown in the table below.

**AVERAGE HIGH
TEMPERATURES**

| Year | Temperature |
|-------------|--------------------|
| 1990 | 83° |
| 1991 | 76° |
| 1992 | 86° |
| 1993 | 88° |
| 1994 | 62° |
| 1995 | 76° |
| 1996 | 82° |

What is the mean of the average high temperatures?

- A** 76°
- B** 79°
- C** 82°
- D** 88°

3

What is the mode of this set of data?

5, 6, 10, 8, 5, 10, 5

- A** 5
- B** 6
- C** 7
- D** 10

4

The frequency table shows the average number of hours students in a class spend each day on math homework. What is the mode of the average hours?

**DAILY AVERAGE HOURS OF
MATH HOMEWORK**

| Average Hours | Frequency |
|---------------|-----------|
| 1 | 5 |
| 2 | 7 |
| 3 | 8 |
| 4 | 2 |
| 5 | 1 |
| 6 | 1 |

A $2\frac{1}{2}$ hours

B 3 hours

C $3\frac{1}{2}$ hours

D 8 hours

5

What is the median of this set of data?

51.2, 19.5, 39.3, 31.9, 45.3, 37.9, 32.3

A 31.9

B 36.8

C 37.9

D 39.3

6

In the first four years of his career, a baseball player had batting averages of .460, .490, .540, and .520. If he wants his mean batting average to be .550 at the end of five years, what batting average must he get in his fifth year?

- A .190
- B .512
- C .550
- D .740

7

The table below shows Alex' s scores during a golf tournament.

| Golf Tournament | |
|------------------------|--------------|
| Round | Score |
| 1 | 74 |
| 2 | 67 |
| 3 | |
| 4 | 72 |
| 5 | 69 |

If Alex' s mean of the five scores was 70, what was his score in the third round?

- A 67
- B 68
- C 69
- D 70