Name: _____ Date: _____ Row: _____ Period: _____ Assignment #: _____

CHAPTER 11

NAME _____ DATE _____

SAT/ACT Chapter Test

For use after Chapter 11

1. The following numbers: 2, 4, 6, 8, 10 represent

(A) series. (B) sequence.
(C) infinite series. (D) infinite sequence.

2. What is the second term in the sequence $a_n = 2n - 1$?

(A) 4 (B) 2
(C) 3 (D) 5

3. What is the sum of the series $\sum_{n=1}^{4} 2n$?

(A) 20 (B) 18
(C) 12 (D) 30

4. What is the sum of the series $\sum_{n=3}^{6} \frac{1}{2}n$?

(A) 6 (B) 12
(C) $\frac{19}{2}$ (D) 9

5. Which sum represents the arithmetic series $6 + 12 + 18 + 24$?

(A) $\sum_{n=1}^{4} 7n - 1$ (B) $\sum_{n=2}^{5} 3n$
(C) $\sum_{n=1}^{4} 6n$ (D) $\sum_{n=2}^{5} n^2 + 2$

6. What is the tenth term of the geometric progression $\frac{1}{2}, -1, 2, -4$?

(A) 256 (B) -256
(C) 128 (D) -128

7. What is the common difference in the arithmetic sequence $-2, 4, -6, 8, \ldots$?

(A) 2 (B) not an A. S.
(C) -2 (D) $\frac{1}{2}$

Quantitative Comparison **In Exercises 8–10, choose the statement that is true about the given quantities.**

(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 given information.

8.

Column A	*Column B*
Tenth term of the sequence $a_n = 2n - 5$	$\sum_{n=1}^{5} n$

9.

Column A	*Column B*
The common ratio of the geometric sequence $-\frac{1}{9} + \frac{1}{3} - 1 + 3$	$\sum_{n=3}^{6} (-2)^n$

10.

Column A	*Column B*
The sum of the infinite geometric series $2 + 1 + \frac{1}{2} + \frac{1}{4} + \ldots$	The sum of the infinite geometric series $1 + \left(-\frac{1}{2}\right) + \frac{1}{4} + \left(-\frac{1}{8}\right) \ldots$

CHAPTER 12

NAME _____ DATE _____

SAT/ACT Chapter Test

For use after Chapter 12

1. What is the number of permutations in ${}_{10}P_4$?

Ⓐ 10,080 Ⓑ 6

Ⓒ 151,200 Ⓓ 5040

2. What is the number of combinations in ${}_9C_7$?

Ⓐ 25,920 Ⓑ 36

Ⓒ 72 Ⓓ 181,440

3. What is the second term in the expansion of $(x + y)^5$?

Ⓐ x^4y Ⓑ xy^4

Ⓒ $5x^4y$ Ⓓ $5xy^4$

4. In a standard deck of 52 playing cards, what is the probability of drawing an ace?

Ⓐ $\frac{4}{52}$ Ⓑ $\frac{1}{26}$

Ⓒ $\frac{1}{52}$ Ⓓ $\frac{13}{52}$

5. Eight runners are competing in the 100-meter dash. In how many different ways can the runners finish? (Suppose there are no ties.)

Ⓐ 8 Ⓑ 40,320

Ⓒ 5040 Ⓓ 336

6. What is the probability of rolling a seven on a pair of six-sided number cubes?

Ⓐ $\frac{3}{36}$ Ⓑ $\frac{6}{36}$

Ⓒ $\frac{1}{36}$ Ⓓ $\frac{9}{36}$

7. Suppose there are 12 seniors on the girls high school track team. How many different ways can three captains be picked?

Ⓐ 79,833,600 Ⓑ 1320

Ⓒ 12 Ⓓ 220

Quantitative Comparison **In Exercises 8–10, choose the statement that is true about the given quantities.**

Ⓐ The quantity in column A is greater.
Ⓑ The quantity in column B is greater.
Ⓒ The two quantities are equal.
Ⓓ The relationship cannot be determined from the given information.

8.

Column A	*Column B*
${}_{20}C_0$	${}_{30}C_{30}$

9.

Column A	*Column B*
${}_6C_4$	${}_6P_4$

10.

Column A	*Column B*
The number of distinguishable permutations of the letters in KANSAS	The number of distinguishable permutations of the letters in BOSTON