

NAME: \_\_\_\_\_

*P.I. A2.S.10: Calculate the number of possible permutations ( ${}_nP_r$ ) of  $n$  items taken  $r$  at a time*

*P.I. A2.S.11: Calculate the number of possible combinations ( ${}_nC_r$ ) of  $n$  items taken  $r$  at a time*

Evaluate:

1.  ${}_7C_3$

[A] 35      [B] 70      [C] 210      [D] 5040

2.  ${}_8C_3$

[A] 112      [B] 336      [C] 40,320      [D] 56

3. Evaluate:  ${}_{11}C_6$

4. Evaluate:  ${}_6C_2$

5. Evaluate:  ${}_9C_8$

6. Use a calculator to evaluate  ${}_7C_4$ .

7. Use a graphing calculator to find the ratio of  ${}_{11}P_7$  to  ${}_{11}C_7$ .

8. Compare the quantity in Column A with the quantity in Column B.

Column A

Column B

${}_{10}C_3$

${}_9C_4$

[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 on the basis of the information supplied.

9. Compare the quantities in Column A and Column B.

Column A

Column B

${}_{15}C_8$

${}_{15}P_8$

[A] The quantity in Column A is greater.

[B] The quantity in Column B is greater.

[C] The quantities are equal.

[D] The relationship cannot be determined from the information given.

10. Compare the quantities in Column A and Column B.

Column A

Column B

for  $r > 1$ ,  ${}_nC_r$

for  $r > 1$ ,  ${}_nP_r$

[A] The quantity in Column A is greater.

[B] The quantity in Column B is greater.

[C] The quantities are equal.

[D] The relationship cannot be determined from the information given.

- [1] A
- [2] D
- [3] 462
- [4] 15
- [5] 9
- [6] 35
- [7] 5040 : 1
- [8] B
- [9] B
- [10] B