

NAME: _____

P.I. A2.S.12: Use combinations to determine the number of elements in a sample space and a specific subset (event)

1. 3 bananas are to be selected from a group of 9. In how many ways can this be done?

[A] 522 [B] 60,480 [C] 84 [D] 504

2. In how many ways can 4 singers be selected from 8 who came to an audition?

[A] 32 [B] 1344 [C] 70 [D] 4

3. There are 7 players in a chess tournament. Each player must play each of the other players once. How many chess games will be played?

[A] 14 [B] 49 [C] 21 [D] 35

4. How many subsets of four elements are contained in the set $\{a, b, c, d, e, f\}$?

[A] 25 [B] 15 [C] 360 [D] 20

5. Four cards are drawn in succession and without replacement from a standard deck of 52 cards. How many sets of four cards are possible?

[A] 54,145 [B] 6,497,400
[C] 1,082,900 [D] 270,725

6. Two cards are drawn in succession and without replacement from a standard deck of 52 cards. How many sets of two cards are possible?

7. You own 5 travel books and are taking 3 on vacation. In how many ways can you choose 3 travel books from the 5?

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8. Fifteen students volunteer for a committee. How many different eight-person committees can be chosen?
9. A committee is to consist of four members. If there are three men and four women available to serve on the committee, how many different committees can be formed?
10. Here is a list of student council members.

Name	Grade	Name	Grade
W. Alba	10	J. Nunez	9
A. Brown	10	R. O'Brien	12
C. Dwight	11	L. Sanchez	11
E. Farrell	12	T. Townsend	10
K. Gonzalez	9	W. Velez	11
M. Milano	10	J. Watson	12
A. Miles	9	O. Xavier	10

A committee must be made up of two students from grades 9, 10, or 11 and another two students from grade 12. How many different committees can be made?

11. There are 9 people on the ballot for regional judges. Voters can vote for any 4. Voters can choose to vote for 0, 1, 2, 3, or 4 judges. In how many different ways can a person vote?

- [1] C
- [2] C
- [3] C
- [4] B
- [5] D
- [6] 1326
- [7] 10
- [8] 6,435
- [9] 35
- [10] 165
- [11] 256