Worksheet 4.3 : Permutations and Combinations

Combinations

1. How many four person committees can be chosen from a group of seven people?
2. There are ten players on the basketball team. How many ways can a starting lineup of five players be chosen?
3. There are 4 things in a hat. How many ways can you pick 2 things from the hat at once?
4. How many combinations of two letters are possible from the letters Y, Z, A, and S?
5. How many three person committees can be chosen from a group of eight people?
6. There are 4 things in a hat. How many ways can you pick 1 thing from the hat at once?
7. How many four person committees can be chosen from a group of six people?
8. How many combinations of two letters are possible from the letters L, A, S, and Y?
9. There are 7 things in a hat. How many ways can you pick 5 things from the hat at once?
10. There are 6 things in a hat. How many ways can you pick 3 things from the hat at once?
11. How many three person committees can be chosen from a group of nine people?
12. How many combinations of three letters are possible from the letters E, K, T, and R?
13. How many three person committees can be chosen from a group of six people?
14. There are 7 things in a hat. How many ways can you pick 4 things from the hat at once?
15. How many four person committees can be chosen from a group of nine people?
16. How many combinations of two letters are possible from the letters M, S, and W?
17. There are 9 things in a hat. How many ways can you pick 5 things from the hat at once?
18. How many two person committees can be chosen from a group of seven people?
19. How many four person committees can be chosen from a group of eight people?
20. How many combinations of three letters are possible from the letters L, B, X, F, and C?

Permutations (Ordered)

1. How many three digit numbers can you make by arranging the numbers 9, 3, and 1?

2. In how many ways can Jordan, Shelby, Sean, Nathan, and Steven stand in line?

3. How many permutations can you make from the letters A through E?

4. How many ways can a president and vice-president be selected in a class of seventeen students?

5. Christina, Makayla, Daniel, and Matthew ran in a race. In how many different orders can they finish the race?

6. How many permutations can you make from the letters W, Q, G, O, and F?

7. How many permutations can you make from the letters C, D, and S?

8. Austin, Jonathan, and Brittany ran in a race. In how many different orders can they finish the race?

9. How many four digit numbers can you make by arranging the numbers 1, 3, 7, and 9?

10. How many ways can a president and vice-president be selected in a class of nineteen students?

11. In how many ways can Kayla, Benjamin, Savannah, Anthony, William, and Alyssa stand in line?

12. How many permutations can you make from the letters A through F?

13. Danielle, Connor, and Isaac ran in a race. In how many different orders can they finish the race?

14. In how many ways can Connor, Olivia, Stephanie, William, and Rachel stand in line?

15. How many permutations can you make from the letters A through I?

16. How many permutations can you make from the letters D, V, C, and P?

17. How many six digit numbers can you make by arranging the numbers 2, 1, 7, 5, 9, and 4?

18. How many ways can a president and vice-president be selected in a class of sixteen students?

19. In how many ways can Natalie, Amber, Brittany, John, Isaac, and Michael stand in line?

20. How many five digit numbers can you make by arranging the numbers 7, 2, 1, 3, and 8?