

Name _____ Class _____ Date _____

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11-1B Practice (continued)

Form G

Permutations and Combinations

Evaluate each expression.

22. ${}_{12}C_{11}$

23. ${}_{12}C_{10}$

24. ${}_{12}C_5$

25. ${}_{12}C_1$

30. Thirty people apply for 10 job openings as welders. How many different groups of people can be hired?

For each situation, determine whether to use a permutation or a combination. Then solve the problem.

31. You draw the names of 5 raffle winners from a basket of 50 names. Each person wins the same prize. How many different groups of winners could you draw?

32. A paint store offers 15 different shades of blue. How many different ways could you purchase 3 shades of blue?

33. How many different 5-letter codes can you make from the letters in the word *cipher*?

40. A restaurant offers a fixed-priced meal of 1 appetizer, 1 entrée, 2 sides, and 1 dessert. How many different meals could you choose from 4 appetizers, 5 entrees, 8 sides, and 3 desserts?

41. **Writing** Explain how you can tell if a situation is a permutation or a combination.
