

Name _____

11-7B Lesson Master**Questions on SPUR Objectives**

See pages 708–711 for objectives.

USES Objective G

1. Each telephone number in the United States is composed of a three-digit area code followed by a three-digit exchange and then a four-digit number.
 - a. How many possible telephone numbers are there if the first digit of both the area code and the exchange cannot be zero?

 - b. How many possible telephone numbers are there for the area code 630 if the first digit of the exchange cannot be zero?

 - c. A business has moved into area code 630 with exchange 451. The business owner wants to have a telephone number that ends in two zeros. How many possible four-digit numbers can he have if no numbers have been assigned to this exchange yet?

2. Five sisters are having their picture taken together. The photographer will position three sisters standing in the back row and two sisters sitting in the front row. How many different ways can the photographer arrange the sisters for the picture?

3. The Kovac family is ordering a large pizza with two toppings from Mama Gina's Pizzeria. There are three children in the family.
 - a. In how many ways can two children be chosen to select toppings for the pizza?

 - b. In how many ways can all three children be chosen to select the toppings?

4. A pet store is rearranging its 7 fish tanks on a shelf. The largest tank will go on the left side of the shelf next to a wall. In how many ways can all 7 tanks be arranged on the shelf?

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USES Objective G

In 5 and 6, Blake and Kirk are on vacation with their parents and are allowed to choose 4 different DVD movies to watch. Each boy will choose 2 movies. They can choose from 17 different movies. Blake chooses his movies first.

5. If the brothers will watch Blake's movies first, how many different ways can Blake choose the first and second movies the boys will watch? _____
6. How many different ways can Kirk choose the third and fourth movies the boys will watch? _____

In 7–10, a password is needed to log on to Rosie's computer. The password contains 3 letters and 2 digits. Find the number of combinations that can be formed in each situation. Assume no letter or digit is used more than once.

7. The letters are chosen from A–M and the digits are chosen from 0–9. _____
8. The letters are chosen from N–Z and the digits are chosen from 0–5. _____
9. The letters are chosen from A–Z and the digits are chosen from 0–9. _____
10. The letters are chosen from E–J and the digits are chosen from 2–5. _____

In 11 and 12, Justin and Jayne went to an ice cream shop that offers 31 different flavors of ice cream.

11. Justin orders a double scoop ice cream cone. If the two scoops are different flavors, how many possible ice cream cones can Justin order? _____
12. Jayne orders a triple scoop ice cream cone. If the three scoops are different flavors, how many possible ice cream cones can Jayne order? _____
13. Keri bought a bicycle lock with a 6-digit code. The code was preset, but Keri can change it to a code she will more easily remember. Each digit of the code can be a digit from 0 to 9.
- a. How many different codes can Keri form? _____
- b. How many different codes can Keri form if she wants the first two digits to represent the month of her birthday, November. _____