Name: ..... Class: .....

Counting Principle

In counting principle, you multiply the number of choices to find the total number of posibilities.

1. Leolia Wants to make a short drama. There are 7 leading actors and 6 leading actresses to choose from a casts. How many different ways can Leolia cast this short drama.

2. A restaurant has four types of pizza in 7 different sizes. How many different pizzas can someone buy?

3. Richard is preparing to go out with his friends. He pulled out 3 shirts, 4 pairs of pants and 4 4 pairs of shoes to choose an outfit from. How many different outfits can he get?

4. Pertra had to go on a rescue mission in the jungle to look for her friends. She had 7 fireworks of different colors to send a signal to a stand by team in case of any problems. How many different signals can be generated if a signal requires the use of 2 fireworks of different colors at once?

5. Find the total number of three digits odd numbers can be created if repetition of numbers is allowed.

6. Each time John rolls a 6-sided die, he picks a card from a pack of 52 cards. Find the total number of outcomes if he does this twelve times.

7. If Larry rolls a die and flips a coin once, how many possibilities will there be?

8. At Owens' sophisticated birthday party, there was a full five-course meal with 12 main dishes, 5 side dishes, 4 kinds of appetizers, and 8 desserts. How many different full-course meals could be selected?

Solution

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Counting Principle

In counting principle, you multiply the number of choices to find the total number of posibilities.

1. **Leolia Wants to make a short drama. There are 7 leading actors and 6 leading actresses to choose from a casts. How many different ways can Leolia cast this short drama.**

Multiply 7 leading actors by 6 leading actresses

7 x 6 = 42

So, Leolia can cast the short drama in 42 different ways.

2. So, there are 28 different pizzas someone can buy.

3. So, Richard can get 48 different outfits.

4. So, 42 different signals can be generated from the use of two fireworks

5. So, 450 three digits can be created if repetition is allowed.

6. So, the total number of outcomes is 3,744.

7. So, there will be 12 possibilities.

8. So, 1,920 full-course meals could be selected.