



NAME

QUARTER 3

GRADE &amp; SECTION

DATE

## Activity: Permutation and Combinations

Use the MATH-BREAKER MAP to answer the following word problems.

1. From a pool of 12 candidates, the offices of president, vice-president, secretary, and treasurer will be filled. In how many ways can the offices be filled?

<b>Drag and Drop 1 to the formula</b> $(n-1)!$ $\frac{n!}{a! b! c! \dots}$ $\frac{n!}{(n-r)!}$ $\frac{n!}{(n-r)! r!}$	<b>Type of Counting Problem</b> <div></div>	<b>Solution</b> <div> <div></div> <div></div> <div></div> </div> $= \frac{\square!}{(\square - \square)!}$
	<b>Formula to be Used</b> <div></div>	
	<b>Given</b> $n = \square \quad r = \square$	
	<b>Answer</b> <div></div>	

2. You can answer any 10 questions from a total of 12 questions on an exam. In how many different ways can you select the questions?

<b>Drag and Drop 1 to the formula</b> $(n-1)!$ $\frac{n!}{a! b! c! \dots}$ $\frac{n!}{(n-r)!}$ $\frac{n!}{(n-r)! r!}$	<b>Type of Counting Problem</b> <div></div>	<b>Solution</b> <div> <div></div> <div></div> <div></div> </div> $= \frac{\square!}{(\square - \square)! \square!}$
	<b>Formula to be Used</b> <div></div>	
	<b>Given</b> $n = \square \quad r = \square$	
	<b>Answer</b> <div></div>	

**REFLECTION:** In a scale from 1 to 5, 1 is the lowest and 5 is the highest, how helpful was the Math-Breaker Map in solving problems involving permutations and combinations.