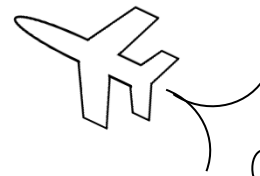




# MAth on the Fly!



NAME: \_\_\_\_\_ DATE: \_\_\_\_\_

## Combinations and Permutations Word Problems

Solve each problem.

1.

Six elementary school students are getting in a line in a classroom.  
How many ways can the students be arranged in a line?

2.

A small pizza restaurant offers 12 different toppings.  
How many 4-topping pizzas are possible?

3.

How many five letter rearrangements can be made  
from the letters in the word "PROBLEM"?

4.

Students must choose 6 books from a school-recommended list of 10 books.  
How many groupings of six books are possible?

5.

A track race has nine participants.  
How many different finishes are possible for first, second and third place?

6.

How many five card hands are possible from a standard deck of 52 cards?

7.

From a chess club of 11 people, two people will be selected as president  
and vice president. How many different ways can the roles be filled?

8.

An online shopper has 8 different items in their online shopping cart.  
If they only buy three items, how many ways can they complete their order?

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## SOLUTIONS

1.  ${}_6P_6 = 720$

2.  ${}_{12}C_4 = 495$

3.  ${}_7P_5 = 2,520$

4.  ${}_{10}C_6 = 210$

5.  ${}_9P_3 = 504$

6.  ${}_{52}C_5 = 2,598,960$

7.  ${}_{11}P_2 = 110$

8.  ${}_8C_3 = 56$