

## The Problem

In the diagram below, the word “ALGEBRA” is written in the shape of a diamond. As you see, starting with either the top or the middle A’s, there are many routes by which you can spell “ALGEBRA.” Exactly how many routes are there?

A  
L L  
G G G  
E E E E  
B B B B B  
R R R R R R R  
A A A A A A A  
L L L L L L L  
G G G G G  
E E E E  
B B B  
R R  
A

## Strategies and Hints

1. Try drawing lines through the possibilities so that you do not count one route twice or leave out one route.
2. Look for a pattern you can use.
3. Try the problem using a shorter word such as “MATH.”