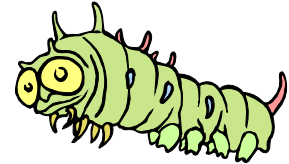


INVESTIGATION # 6

Caterpillar Crawls

A caterpillar is sitting on the top of a wire grid as shown in the diagram on the right.



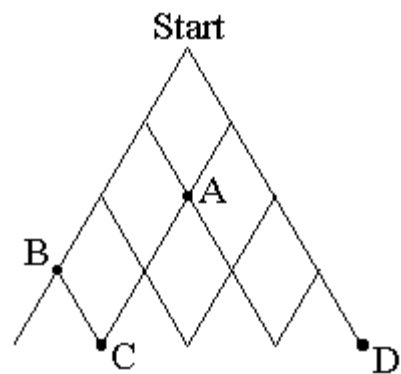
If the caterpillar always walks **downwards** along the grid work out how many different paths he can take to arrive at these points on the grid.

A? _____

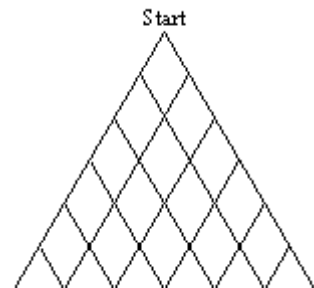
B? _____

C? _____

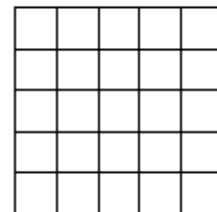
D? _____



If the grid had more wire in it like the one in this diagram, can you find a way of easily working out how many different paths he could take on the grid?



What about if the grid were a different shape like this one?



ASSESSMENT TASK

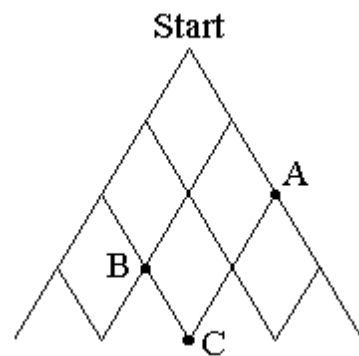
Caterpillar Crawls

A caterpillar is sitting on the top of a wire grid as shown in the diagram on the right.



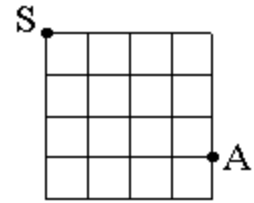
1. If the caterpillar always walks **downwards** along the grid work out how many different paths he can take to arrive at these points on the grid.

A? _____
B? _____
C? _____

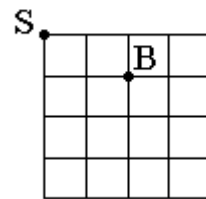


2. Explain an easy way of finding the number of paths to any point on the grid. Use a diagram if it helps.

3. (a) For the grid shown here, find the number of different paths to get from S to A if the caterpillar can only travel down or to the right.



- (b) For the grid shown here, find the number of different paths to get from S to B if the caterpillar can travel down, to the right or to the left.



4. Another caterpillar is at the top of this grid.

This caterpillar is capable of moving down or along to the left or right but not up.

How many different paths can this caterpillar take from S to C?

