## About Puzzles...

Solving puzzles increases your spatial reasoning. Sometimes the solution will be quite obvious. Other times, arriving at the solution will be more challenging. When you're stuck, try to work backwards from what the solution is to the configuration of the original problem.

Sometimes there is more than one solution to a puzzle. Try to find all possible solutions.

## A Personal Preztel Puzzle

As a super challenge, invent your own pretzel puzzle and see if your friends can solve it:


Solutions...


## References

none, these are common toothpick puzzles

## Lunchbox Math Bytes

easy to digest mathematics for your lunchbox

## Pretzel Puzzles

You will need to pack:
About 20 short pretzel sticks or toothpicks or some other set of sticks that are equal in length.
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## Puzzles

Here are 5 puzzles you can do with short pretzels, toothpicks, or other small sticks that are all the same length.

1) Arrange 12 sticks as shown below. Move 4 sticks, make 3 small squares all the same size, with no leftover toothpicks:

2) Arrange 9 sticks as shown below. Make 4 triangles the same size as the ones below using only 6 sticks:

3) Arrange sticks as shown below. Take away 6 sticks completely and leave 10.:

4) Arrange 16 sticks as shown below. Move 2 sticks, make 4 small squares all the same size, with no leftover sticks:
5) Arrange 11 sticks as shown below. Move 1 stick so the house faces the opposite direction:


