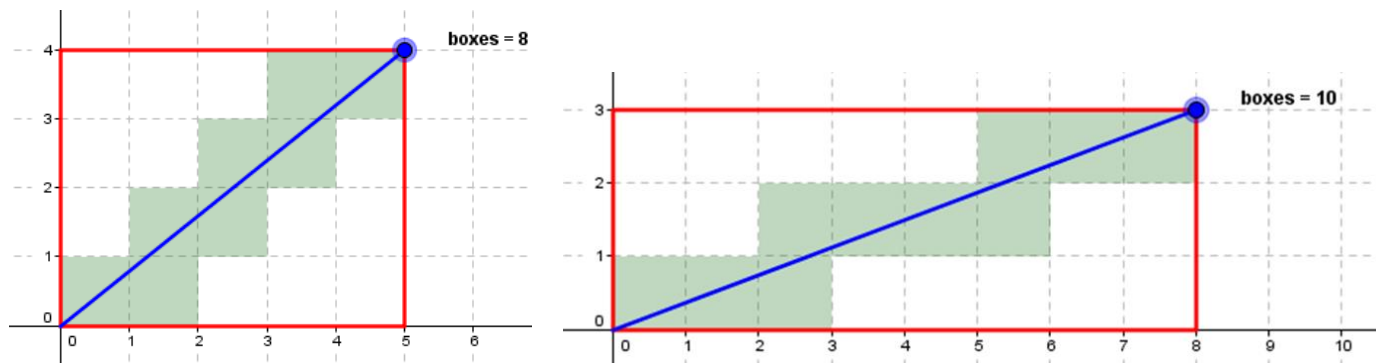


Geometry – Diagonals of rectangles Investigation

(Miss Bell's set)

- Draw any size rectangle on square paper (whole number width and height)
- Draw a line from the bottom-left corner to the top-right corner
- Count how many squares the line passes through



Think about the types of statements or questions a mathematician might now investigate.

Here are a few examples:

- Is there a connection between the length / width to the number of squares the diagonal passes through?
- Try keeping the width of the rectangle fixed and changing the height. Can you spot any patterns?
- Keep the difference between the width and the height the same. Can you spot any patterns?
- What happens with squares?
- What happens when the height is double the width?
- What about when it is triple the width?
- Can you come up with a rule that will allow you to say how many squares the line will pass through for any set of dimensions?
- Can you explain why this rule works?

I have included some squared paper too.

Don't forget to be organised with your examples and write full sentences to explain what you have discovered. Have fun!