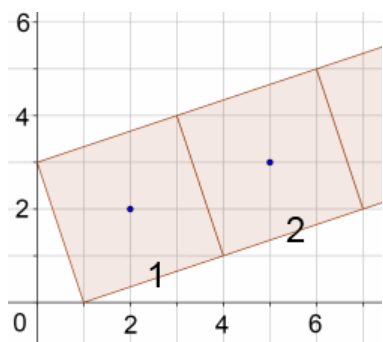


Charlie has been drawing squares:



What will the coordinates of the centre of square number 3 be? How do you know?

Charlie wants to know where the centre of square number 20 will be.

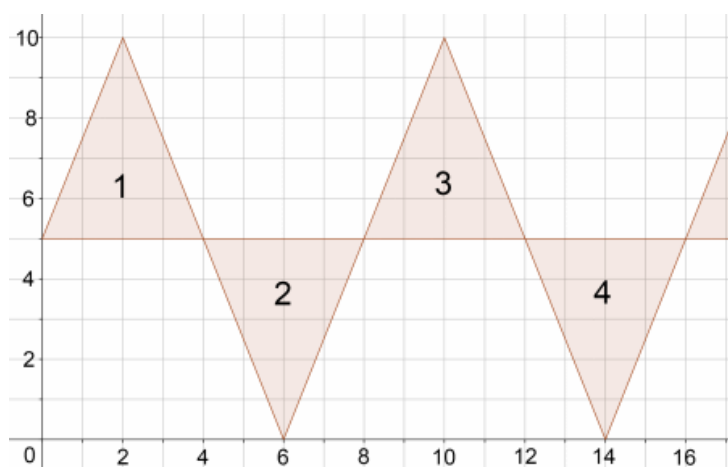
Can you use the diagram to help you work this out?
Can you suggest a quick and efficient strategy for working out the coordinates of the centre of any square?

Would your strategy work if Charlie's sequence extended to the left?

..., -2, -1, 0, 1, 2, 3, ...

Can you adapt your strategy to work out the coordinates of the vertices of **any** square? How would you explain your new strategy to someone else and convince them that it would work for **any** square?

Alison has been drawing triangles:



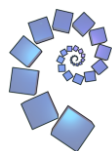
Alison wants to know where the vertices of triangle number 23 will be. Can you use the diagram to help you work it out?

Can you suggest a quick and efficient strategy for working out the coordinates of the vertices of **any** triangle?

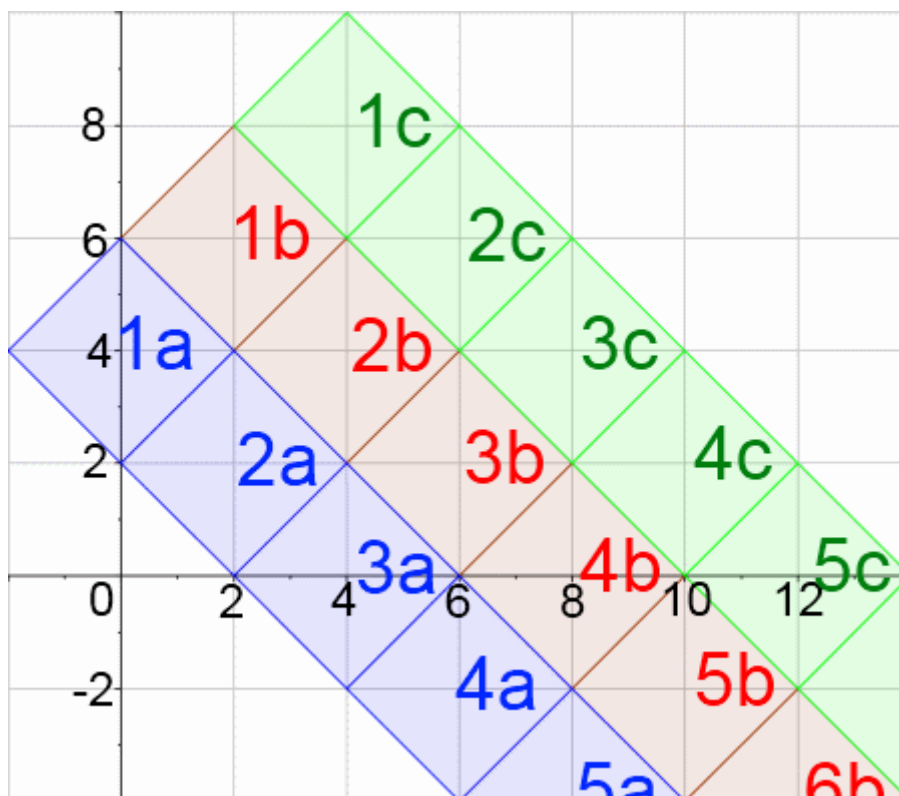
Would your strategy work if Alison's sequence extended to the left?

..., -2, -1, 0, 1, 2, 3, ...

How would you explain your strategy to someone else and convince them that it would still work?



Charlie has been drawing more squares:



He wants to know what the coordinates of the centre of square 22b will be.

Can you use the diagram to work it out?

Can you suggest a quick and efficient strategy for working out the coordinates of the vertices of **any** square?

How would you explain your strategy to someone else and convince them that it would work for **any** square?