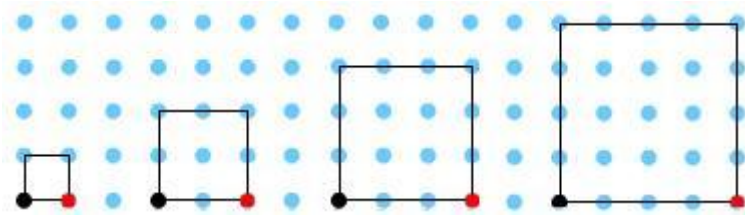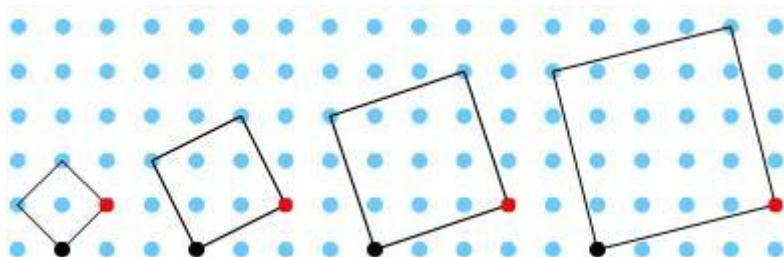It's easy to work out the areas of squares drawn on a grid if they are oriented in the usual way:

Can you find a quick and easy method to work out the areas of tilted squares?

Here are some squares with a tilt of 1:

Notice anything special about their areas?
Can you predict the areas of other squares with a tilt of 1?

What about squares with a tilt of 2? Or 3? Or 4? Or...?
Notice anything interesting?

Can you make any conjectures about the areas of tilted squares?
Can you prove your conjectures?