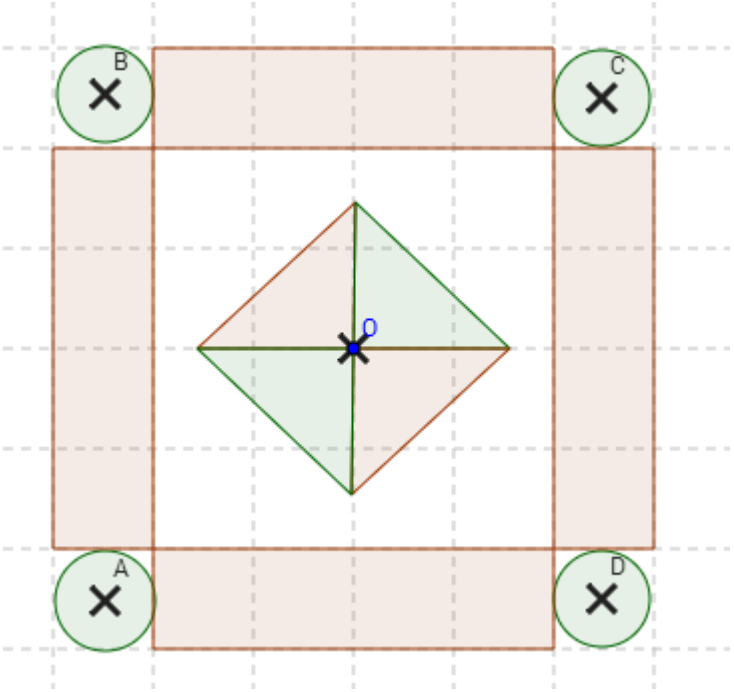
Student 1: Low Excellence

I have been asked to design a new garden to go where the old tennis court was in front of the school office. I am going to make a mock tudor garden with green hedging and a browny/red hedge, all half a metre high.

This is the main part of the garden



To make this I did

Drew a circle centre A
Translated it 5 units to the right to make circle centre D
Translated it 5 units up to make circle centre B
Translated the circle centre B 5 units right to make the circle centre C
Drew the rectangle between circles A and D
Rotated this 90^0 anticlockwise about A to get the rectangle on the left
Translated it 5 units up to get the rectangle on the top
Translated the second rectangle 5 units to the right to get the fourth one.
Drew the top right triangle in the middle
Rotated it through 90^0 and 180^0 and then 270^0 clockwise about O to the other three triangles.
Coloured them in to show which has which coloured hedging.

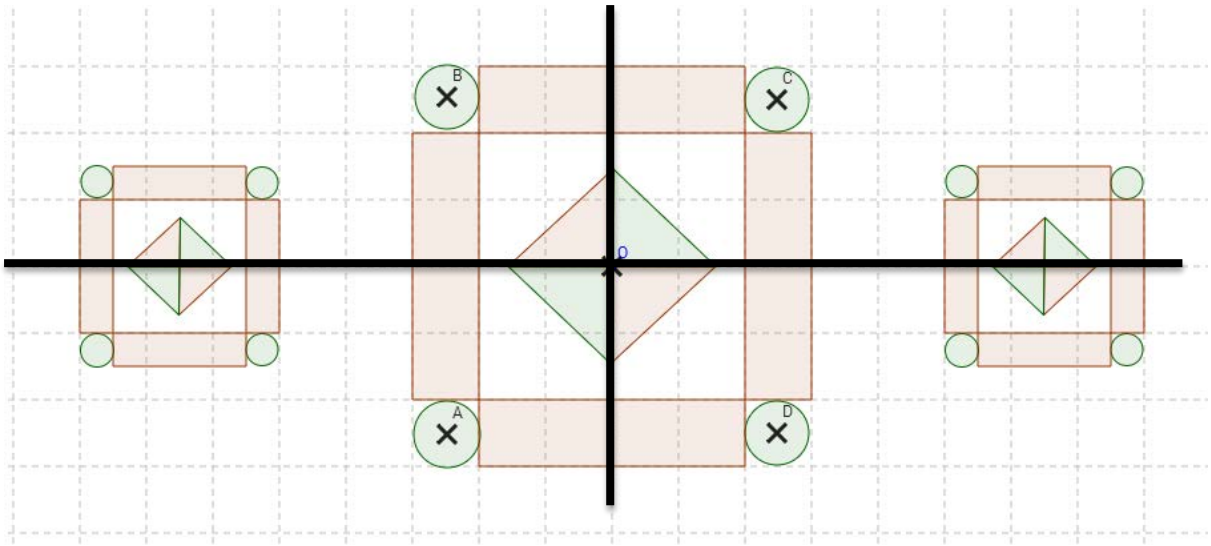
2

1

Because translations and rotations don't change angles or lengths the shapes are all the same, but other ways up.

5

To finish off the garden I am going to have smaller gardens to the left and right of the main garden.



To make these I took the main garden and enlarged it by one half, centre O and moved this smaller shape 6.5 units to the right.

3

I repeated this but moved it 6.5 units to the left.

These two smaller gardens have the same angles but the lengths are all one half, because this is what happens with a shrink.

5

If you ignore the colours the final gardens have a vertical and a horizontal line of symmetry through the middle, but these are not lines of symmetry if you count the colours. The black lines are the mirror lines on the graph.

4

6