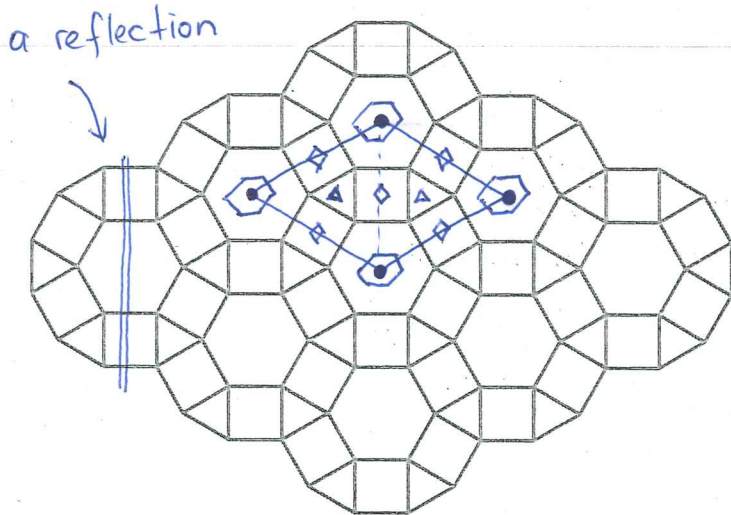


Name and Surname:  
 Student Number:

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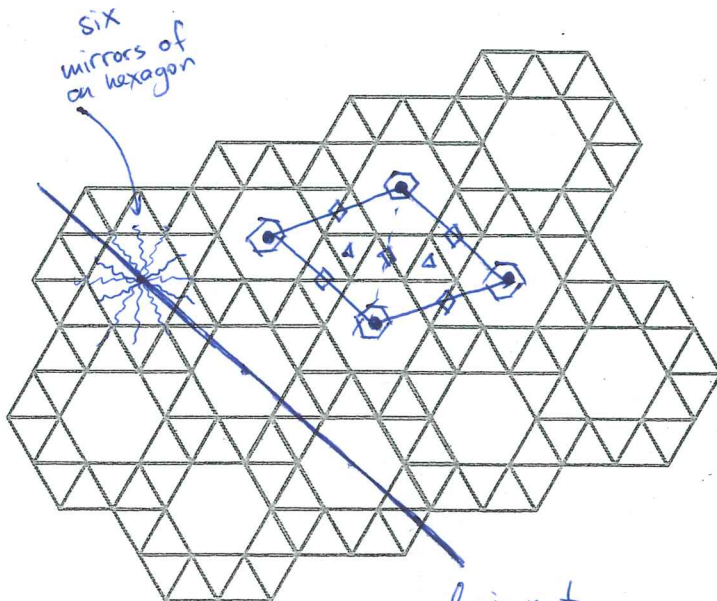
Quiz 9

1. Each polygon is regular. Find a reflection. Name the wallpaper group. Choose a suitable lattice and indicate all the centers of rotations.



There is a 6-fold rotation. Moreover there is a reflection. The wallpaper group must be  $pm\bar{6}$ .

2. Each polygon is regular. Show that there is no reflection. Choose a suitable lattice and indicate all the centers of rotations.



l is not a mirror of a reflection because it doesn't coincide with the mirrors of hexagons it intersects.

There is a 6-fold rotation. If there was a mirror, then the wallpaper group would be  $pm\bar{6}$  which has reflections in certain lines such as l. Since l is not a mirror, there is no reflection at all. Thus the wallpaper group is  $p\bar{6}$ .