

Mathematics in Art and Architecture GEM1518K

Homework on mathematically interesting objects around you.



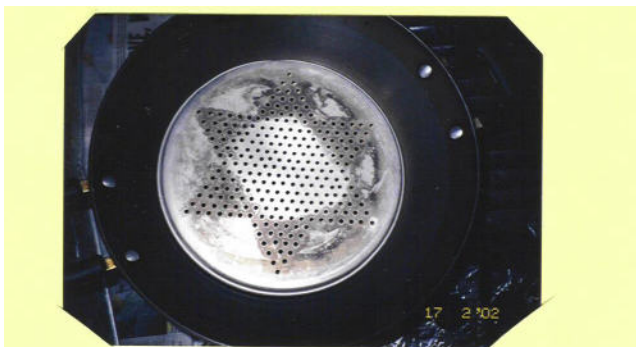
risking our lives,
climbing up to the rooftop



Beautiful !!!
however, the purpose of it up there
has yet to be found out



where? crown prince hotel's swensen's at orchard
(found it when i was having ice cream, stood on a chair & snap it - everyone was STARING at me!)



where? found it in @ friend's kitchen! (in a wok)
it's actually a metal steamer (commonly found in homes that still use traditional cooking methods) it actually displays the star of david - with 6 pointed ends (formed by overlapping 2 equilateral triangles)





Location : Lau Pa Sat

Besides being octagonal in shape, the roof is designed in such a way that there can be many lines of symmetry. Furthermore, not many people know of the triangular 'windows' on the roof which formed creates unique pattern.



Location : Sri Mariamman Temple At South Bridge Rd



Hexagonal ring of HDB apartments, Blocks 470A-P, Pasir Ris.

Picture just shows 3 sides of the hexagonal ring of apartments. Each side of the hexagon is a separate 10-storey block. The enclosed area is large enough to accommodate a basketball court built on top of a multi-story car-park (as seen in foreground of picture).

This entire cluster of apartments consists of 3 inter-locking hexagonal rings. The other rings enclose either another basketball court/multi-story car-park or a park and jogging track.



I first chanced upon the lantern-ornament at a craft shop during the Chinese New Year. They sold make-it-yourself kits and having attempted to replicate the example at the shop (a very neat one), I can say with certainty that this lovely floral-ball is in fact a dodecahedron in disguise! Each pentagonal face of the dodecahedron is actually made up of five paper petals.
(Somehow, the fact that this is a New Year ornament brings a cultural dimension to the assignment.)





This is an ornament which I have at home. The 2 elephants are not mirror images of one another. Instead, this interesting object has a rotational symmetry of 180° about the X plane. The circle is also an interesting pattern



Pentagram hanging below domed skylight, Century Square, Tampines

I stood on the escalator to get this shot off. Kind of off-focus. The skylight is made up of triangles and the pentagram adds a dramatic touch.

The patterns found at Shaw House are probably overshadowed by the big screen found on the same wall. However these are interesting patterns where one should take some time off to take a look at. Below are the patterns.



This pattern has 6 lines of symmetry and 6 rotational symmetry.



This pattern has 4 lines of symmetry and 4 rotational symmetry.

These 4 tiles can be found in the compound of NUS, along the walkway from Arts and Social Sciences Faculty to the Kent Ridge Interchange.



This is a pattern that has no lines of symmetry but it has 4 rotational symmetry.



This is also a pattern that has no lines of symmetry but has 4 rotational symmetry.



This design however has neither lines of symmetry nor rotational symmetry because of the flower design in the middle, but I add it here because all 4 can be found on the walkway.



This pattern has 2 lines of symmetry and 2 rotational symmetry.

CONCLUSION

In conclusion, I have to say while doing this project, it was interesting and amazing to notice so many geometric shapes and arrangements present in the environment we live in and interact

with. This definitely gives a fresh perspective of the normally mundane buildings and objects that I pass by all the time.