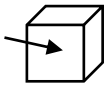
GEOMETRIC THINKING – SET 5 – PART 1

(A) *Can say how many faces, edges and vertices different 3d shapes have.*



Face
A 2d shape that makes up one surface of a 3d shape.

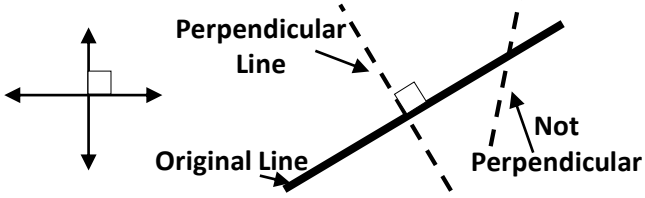
Edge
An edge where two faces meet.

Vertex
A point or corner of a geometric shape.

Shape	Faces	Edges	Vertices
Cube	6	12	8
Triangle Pyramid	4	8	5
Hexagonal Prism	8	18	12

(B) *Can recognise and describe perpendicular lines.*

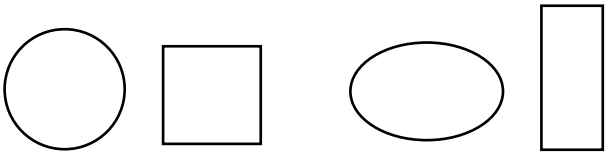
'Perpendicular is a given line at 90° to a certain line. Plane, surface or to the ground.'



(C) *Can explain which shapes are elongated and why.*

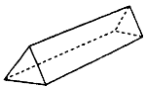
Elongated means to stretch out or extend the length of.

Not Elongated **Elongated**



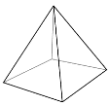
(D) *Can discuss the features of 3d shapes and knows the cross section of these shapes*

Prism
A 3d shape with straight parallel sides and a polygon cross section.

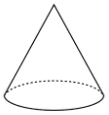


Cylinders
A 3d shape with straight parallel sides and a circular or oval cross section.

Pyramids
A 3D shape with a base than can be any polygon and 3 or more triangular faces that meet at a point at the top.

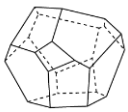


Cones
A 3D shape with a base is circular or oval, which tapers to a point at the top.



Regular Polyhedral
A 3D Shape whose faces are identical regular polygons. All side lengths are equal, all angles are equal.

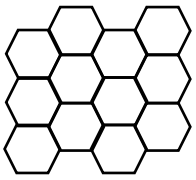
Polyhedral
A 3D shape with many plane faces.



(E) *Know which shapes tesselate and why.*

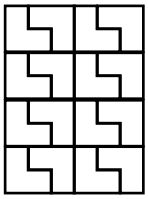
A Tessellation of a flat surface is the tiling of a plane using one or more geometric shapes called tires, with no overlaps and no gaps.

Tesselate



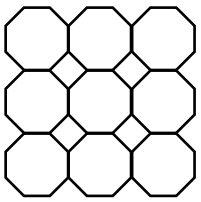
Regular hexagons tessellates as it tiles together leaving no gaps or overlaps.

Tesselate



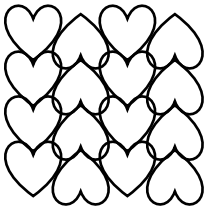
This polygon tessellates when it is rotated 90° and shifted to leave no gaps or overlaps.

Two shape Tessellation



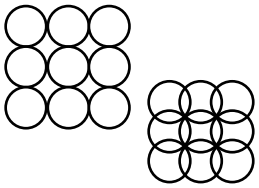
Octagons on its own does not tesselate as it leaves gaps, but when the gaps are filled with a square they tesselate together.

Doesn't Tesselate



Hearts even when rotated and squashed together do not tesselate as they leave little gaps and overlap a little.

Doesn't Tesselate



Circles do not tesselate, they either leave gaps or when squashed together they overlap.

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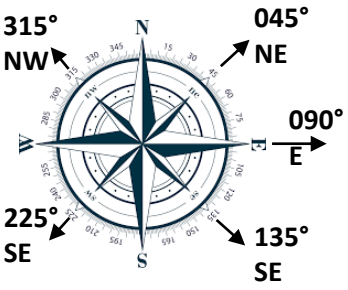
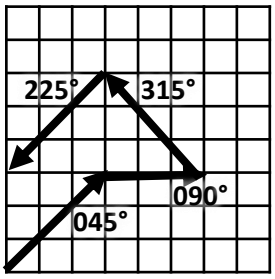
GEOMETRIC THINKING – SET 5 – PART 2

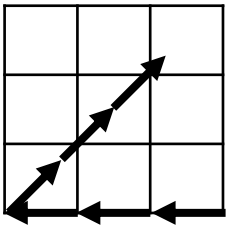
(F) *Can use a compass to find degrees and bearings. Bearings always have 3 numbers, eg: 045°*





(G) *Knows that measurements that aren't N, S, E or W don't cover full squares.*

Example: Travel 3km west, and then 3km on a bearing of 045°



(H) *Can use and understand grid references using an x and y axis*

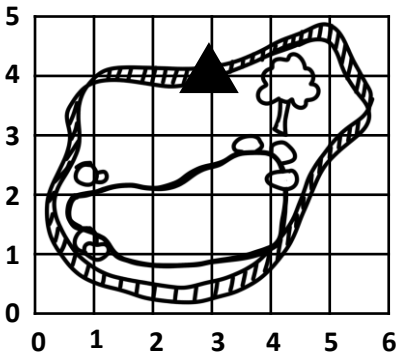
(x, y)

x is the horizonal line, it show how far right (or West) a point is from the vertical line.
y is the vertical line, it show how far up (or North) a point is from the base line.

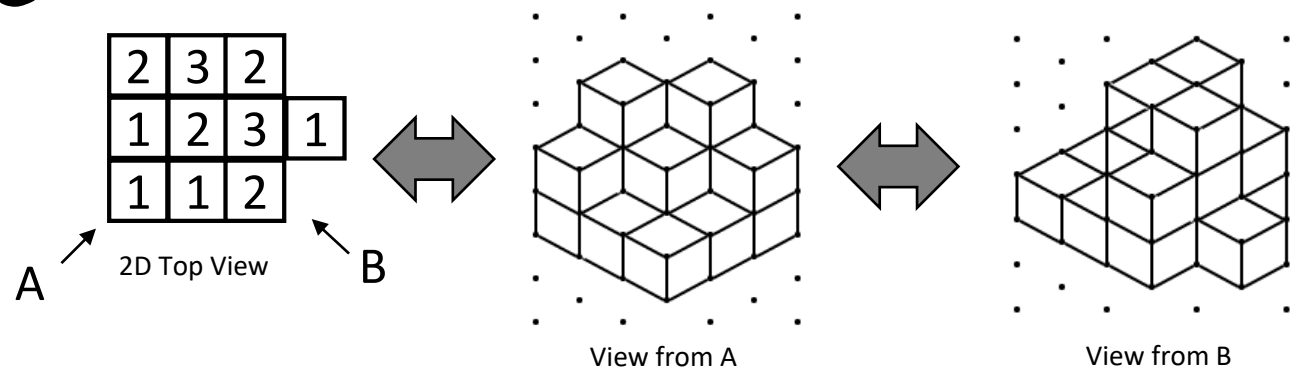
Example: What are the co-ordinates of the triangle?

(3, 4)

x = 3, so it will be placed 3 units right of the vertical line.
y = 4, so it will be placed 4 units above the base line.



(I) *Can draw models and diagrams of 2d and 3d models from 2d and 3d drawings.*



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