Chapter-7

GEOMETRY

STUDY NOTES

*** Curved Line**

*** Straight Line**

*** 2-D Shapes**

*** 3-D Shapes or Solids**

*** Tangrams**

*** Tessellation, Identifying Tessellation**

*** Dot Grid, Map Reading**

1. Curved Line

➢ **EXPLANATION**

A line that is not straight is a curved line. If a point does not move in one direction, we get a curve. A curved line is one that is not straight and is bent.

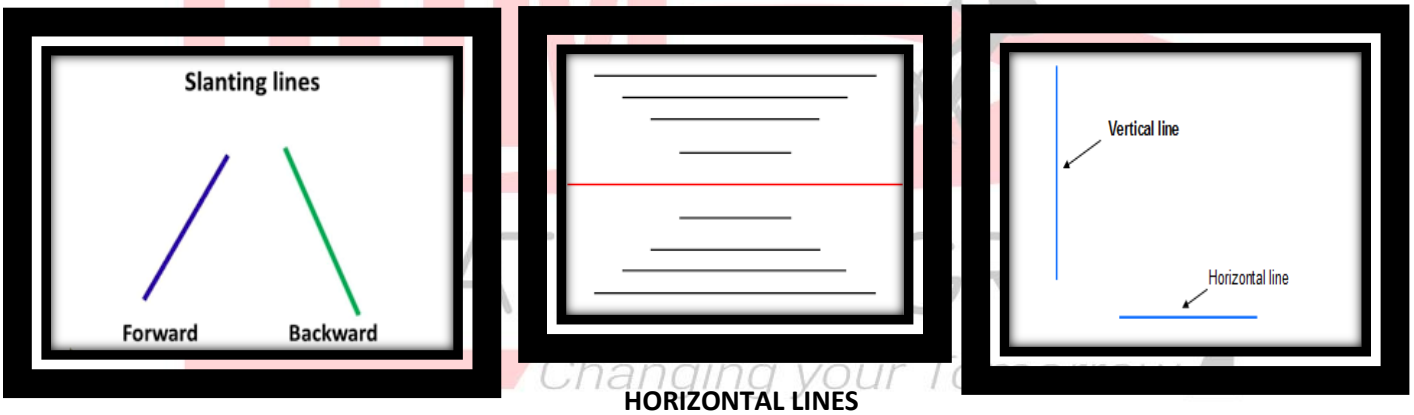
➢ **For example:**

2. Straight Line

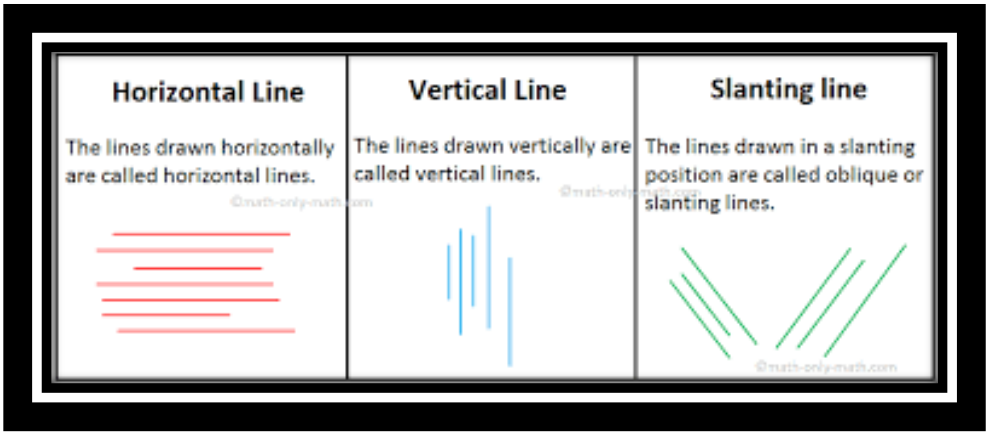
➢ EXPLANATION

A straight line or line is an endless one-dimensional figure that has no width. The straight line is a combination of endless points joined on both sides of a point. A straight line does not have any curve in it.

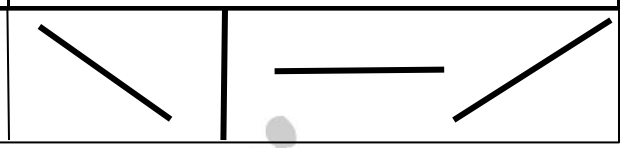
➢ For example:



HORIZONTAL LINES

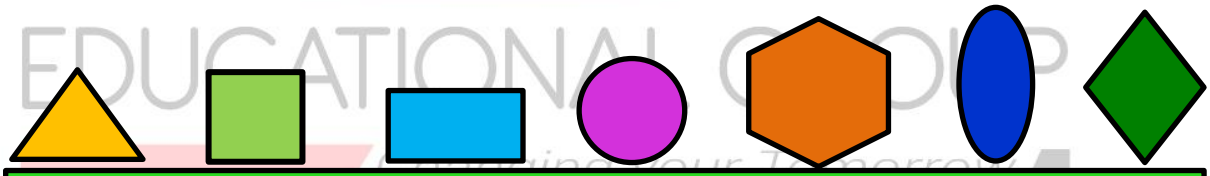


Differentiate Between Curved Lines and Straight Lines

Curved Line	Straight Line
A smoothly bent line which is not straight is called a Curved Line.	The shortest line that joins any two points is called a Straight Line.
The points determining a curved line change direction from one end to the next point.	A straight line is a succession of multiple points aligned in the same direction.
A curved line can be any line, whether straight or not.	A straight line can be straight or curved.
	
Curved Lines do not move in one direction.	Straight Lines moves are one direction.

3. 2 - D Shapes

➢ **EXPLANATION**



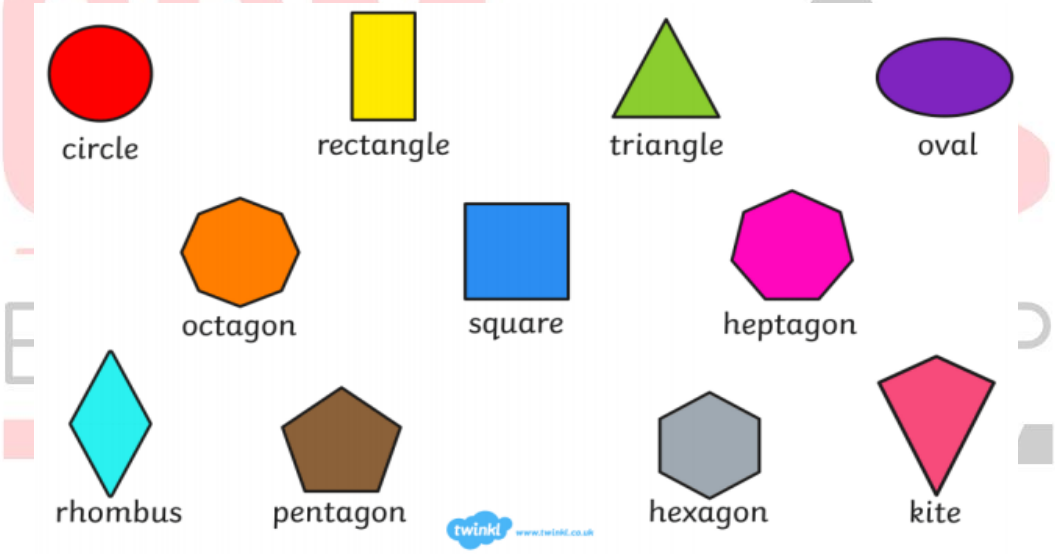
Triangle, Square, Rectangle, Circle, Hexagon, Oval, Rhombus are 2- D shapes.

KEY WORDS

CORNER OR VERTEX, SIDES and DIAGONALS

DEFINITION

A 2-D (two – dimensional) shape is a flat shape that has only two dimensions – length and width, with no thickness or depth.



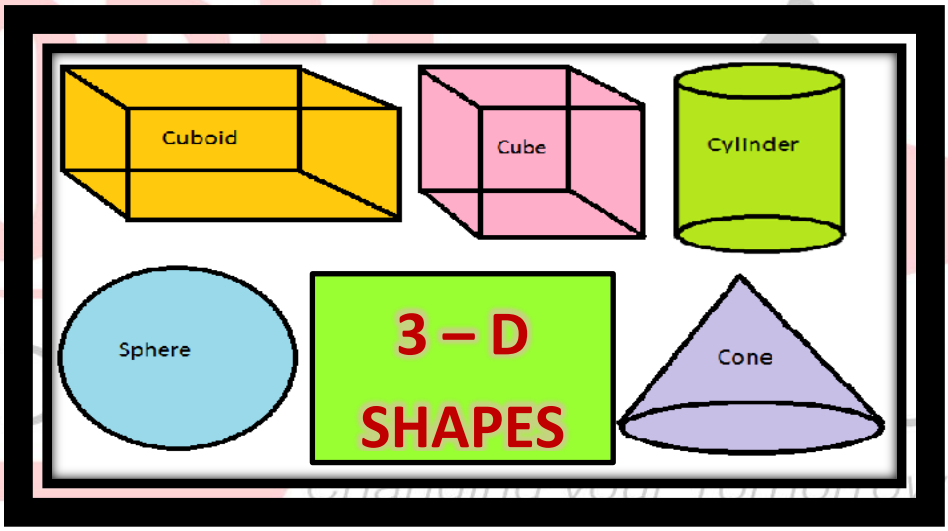
4. 3 - D Shapes or Solids

- **EXPLANATION**

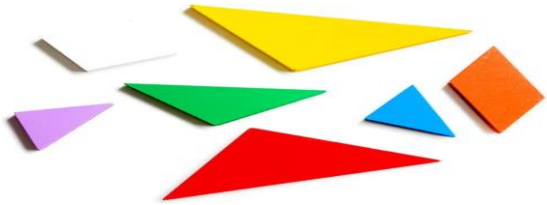
Cube, Cuboid, Cone, Cylinder, Sphere are some 3 - D shapes.

3D in the word 3D shapes means three-dimensional. Every 3D geometric shape occupies some space based on its dimensions and we can see so many 3D shapes all around us in our day-to-day life.

➢ **For example:**

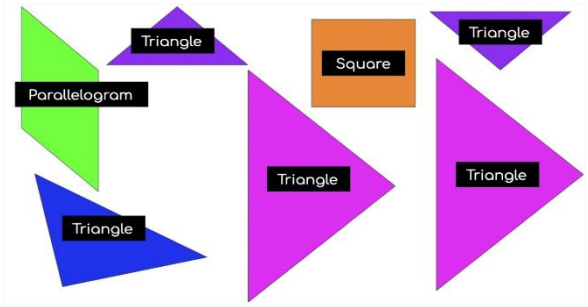


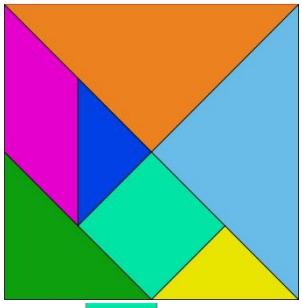
5. Tangrams



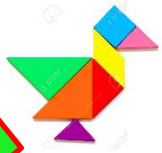
➢ **EXPLANATION**

A Tangram is a puzzle or a tricky set of seven geometric shapes made up of two small triangles, one medium triangle, two large triangles (total five triangles), a square, and a parallelogram.



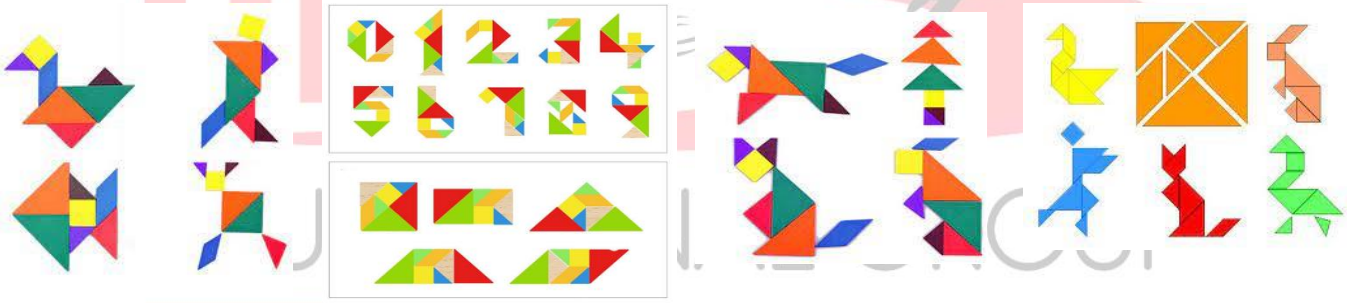


➢ **For example:**



FACT FILE

Tangrams were first introduced to the German public by industrialist Friedrich Adolf Richter around 1891. The sets were made out of stone or false earthenware, and marketed under the name "The Anchor Puzzle".

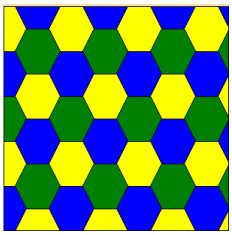
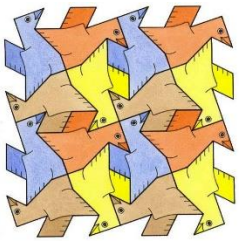
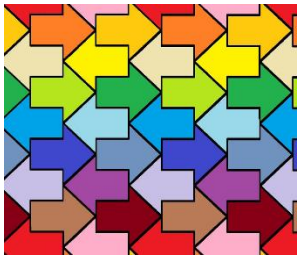


6. Tessellation, Identifying Tessellation

➢ **EXPLANATION**

A tessellation is a tiling over a plane with one or more figures such that the figures fill the plane with no overlaps and no gaps. Examples of a tessellation are: a tile floor, a brick or block wall, a checker or chess board, and a fabric pattern.

➢ **For example:**

There are three types of tessellations: Translation, Rotation, and Reflection

REMEMBER

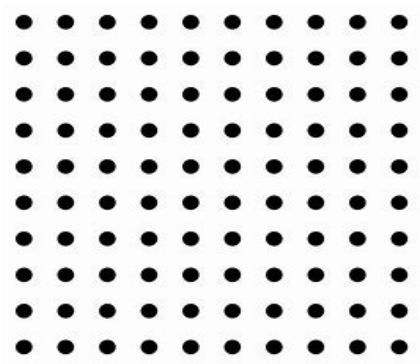
- RULE 1: The tessellation must tile a floor (that goes on forever) with no overlapping or gaps.
- RULE 2: The tiles must be regular polygons - and all the same.
- RULE 3: Each vertex must look the same.

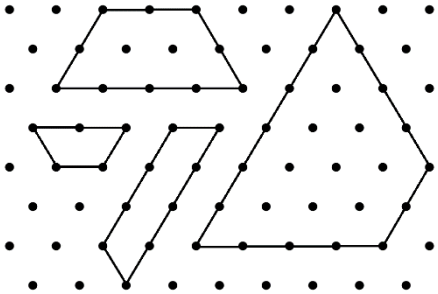
7. Dot Grid, Map Reading

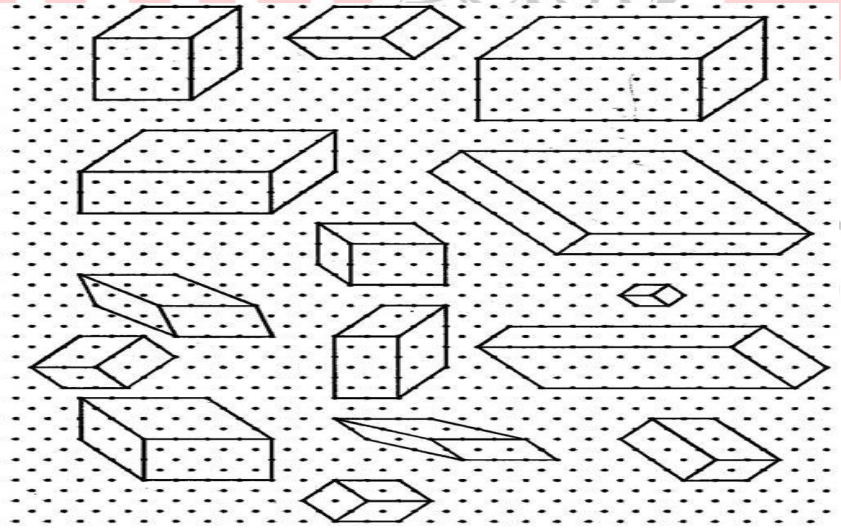
➢ EXPLANATION

A Dot Grid is a pattern or structure made from horizontal and vertical lines using dots crossing each other to form squares. It is also a pattern of dots in a grid from which alphanumeric characters can be formed.

➢ For example:

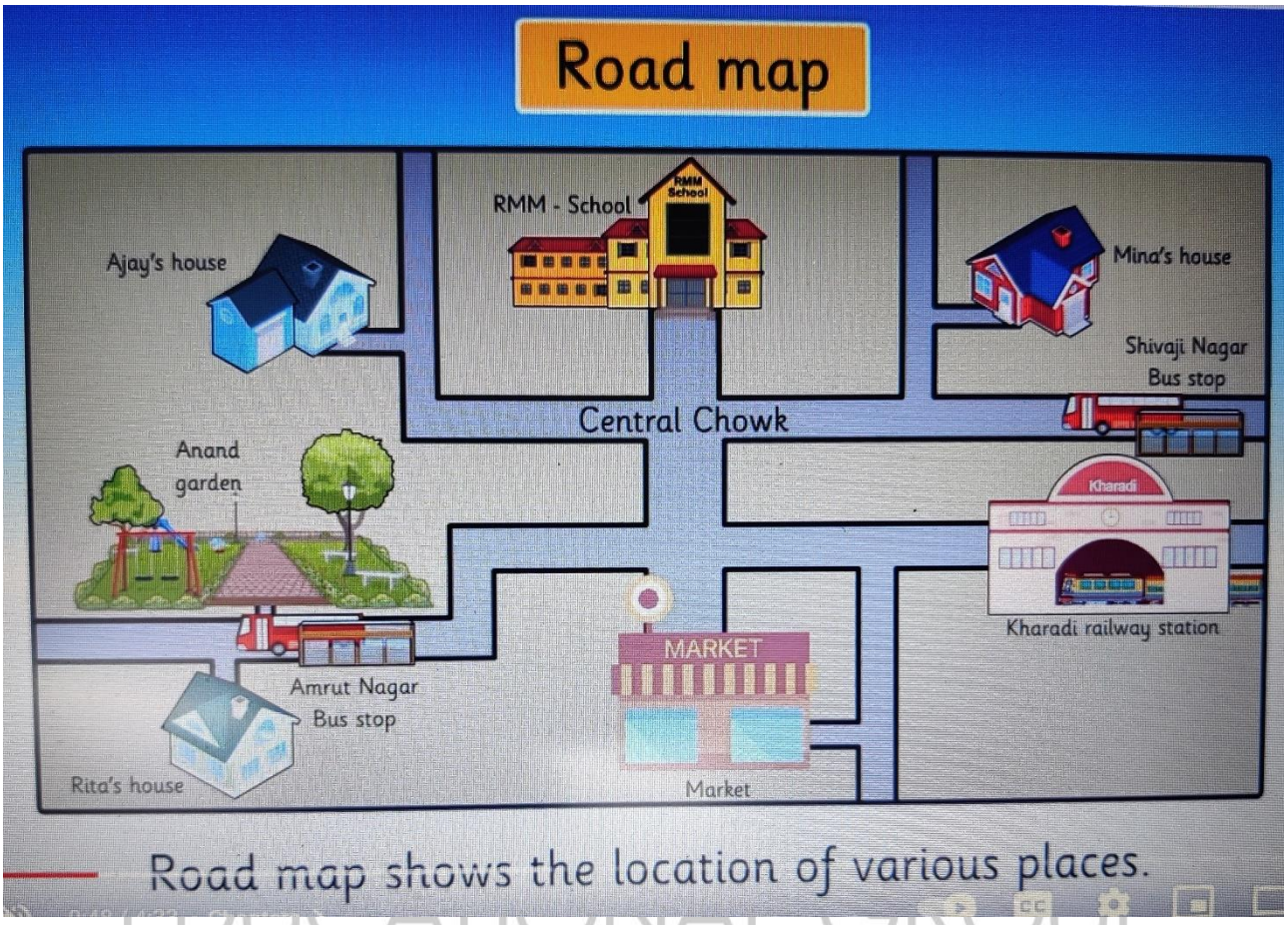


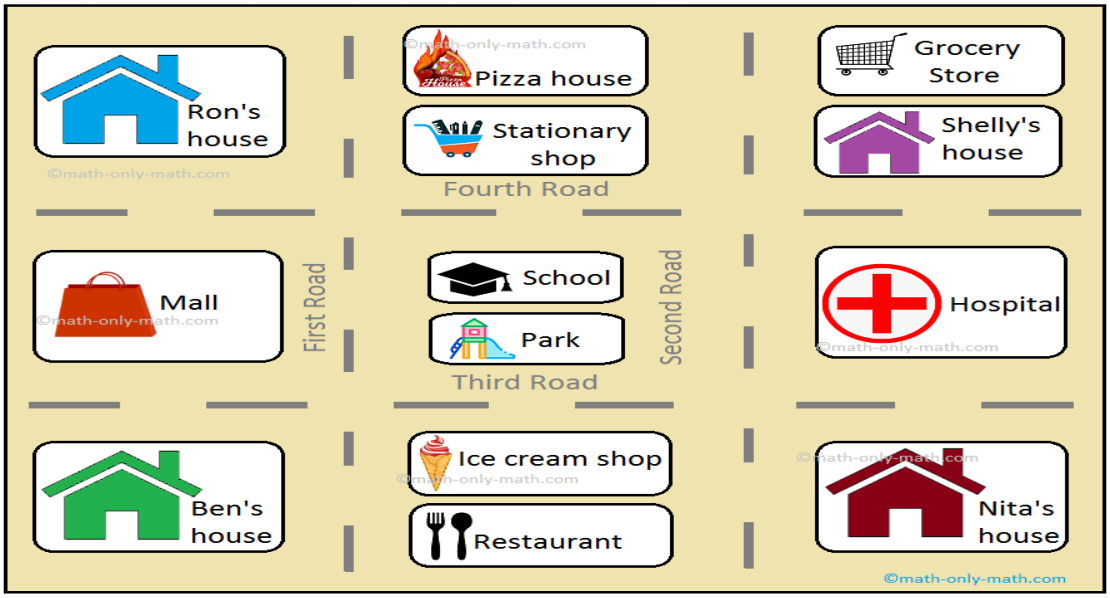




Map reading is the process of looking at the map to determine what is depicted

➢ **For example:**


Road map
RMM - School
RMM School
Ajay's house
Mina's house
Shivaji Nagar
Bus stop
Central Chowk
Anand
garden
Kharadi
Kharadi railway station
MARKET
Amrut Nagar
Bus stop
Rita's house
Market
Road map shows the location of various places.


Ron's house
Pizza house
Stationary shop
Fourth Road
Grocery Store
Shelly's house
Mall
First Road
School
Park
Third Road
Second Road
Hospital
Ben's house
Ice cream shop
Restaurant
Nita's house
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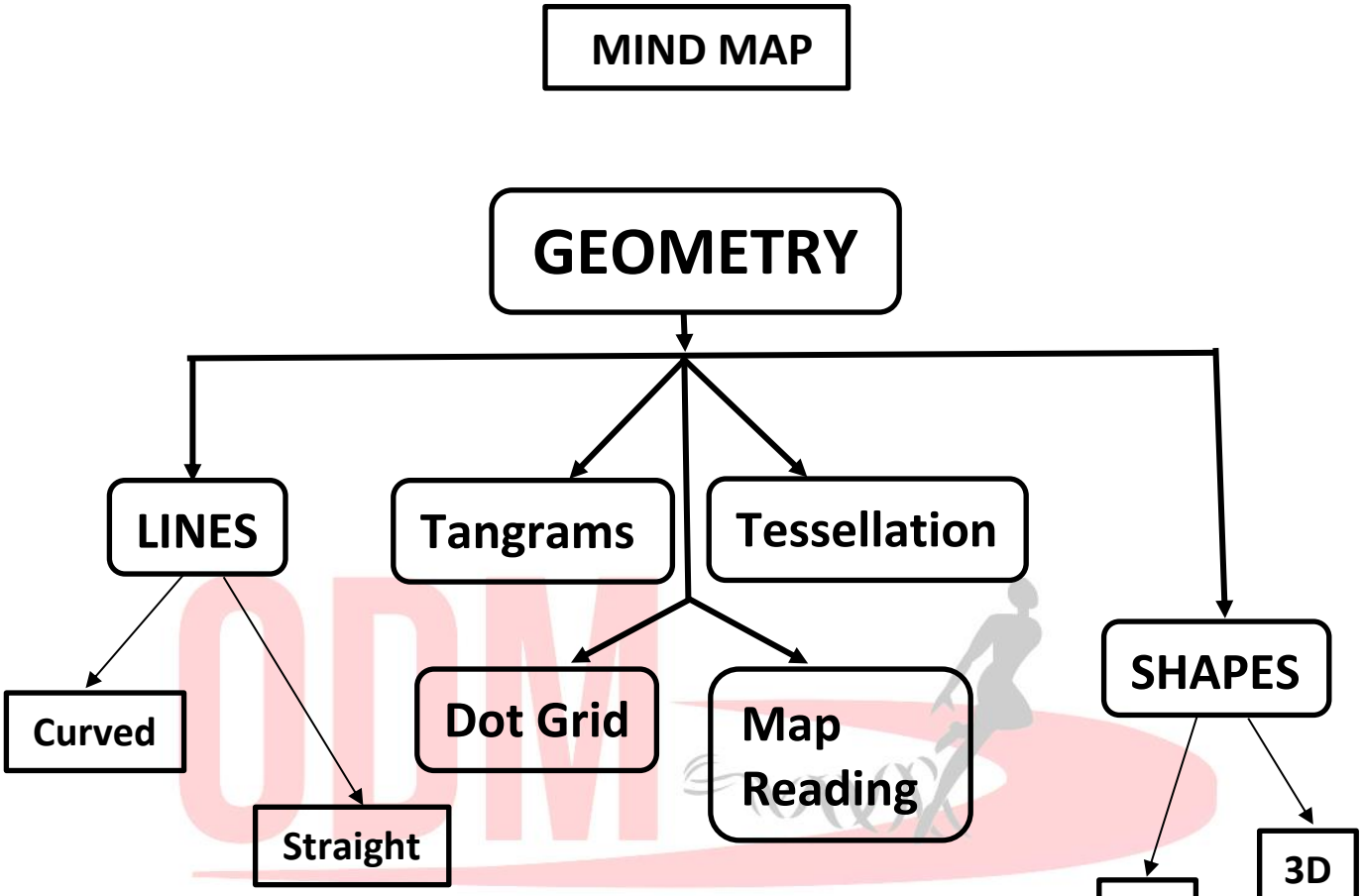

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