

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

GEOMETRY AND
SPACE

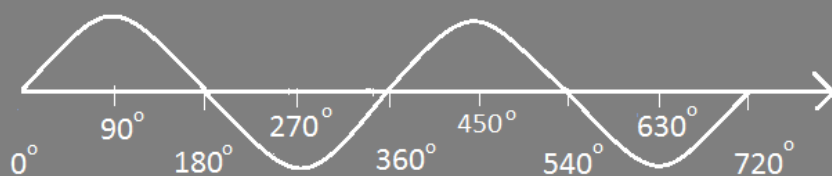
Wave (geometry)

A periodic oscillating curve is a wave.

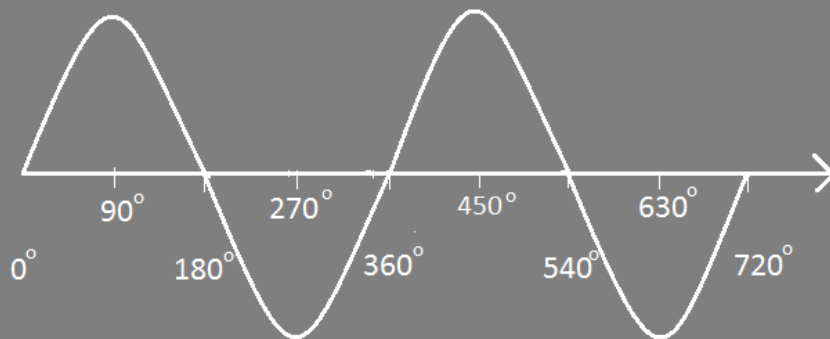
Example

the graphs of trigonometric functions like $\sin x$, $\cos x$, $\sin x + \cos x$ etc are all waves

Graph of $\sin x$



Graph of $2\sin x$



In this way the amplitude (maximum height or depth) of wave can be increased or decreased to what we want the shape of wave.

Applications of Waves

In Quantum Physics waves carry energy from one place to other in the form of

- 1) Heat
- 2) Light
- 3) Gravity

Blackhole

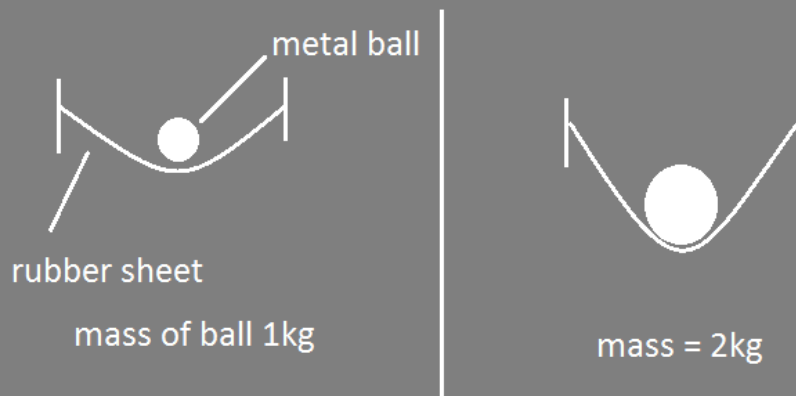
when a star dies it leaves a dark space which becomes very dense and massive possibly this is the way blackholes are created(God knows the best of all)

Take a rubber sheet and fix its four corners such that sheet does not touch the ground. Now place a metal ball in center of the sheet what do you see?

the sheet bends at place where ball is placed . same like is phenomena of space-bodies that are floating on a (imaginary) space-time curve.

Now when mass of ball (placed on rubber sheet) increases the sheet gets more bended down .

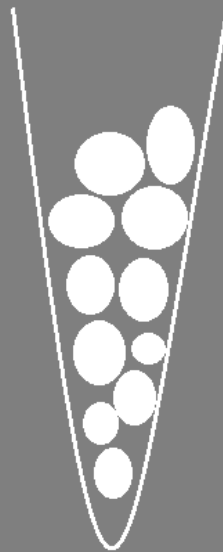
what if mass of ball keeps getting increasing?
suppose the sheet has infinite elasticity. We increase mass of ball



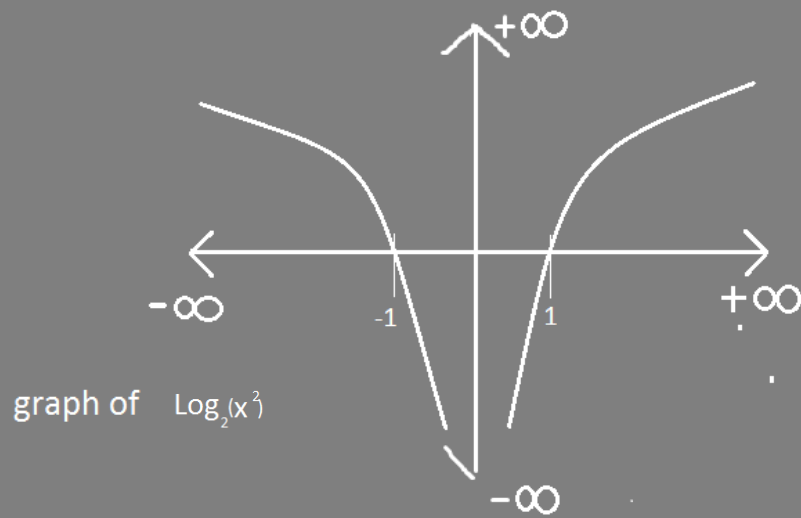
Mass = 10kg



so when mass (of ball) approaches
infinity the sheet will take the form
of blackhole



Graphs that are like blackhole



blackhole attracts matter like light, stars
what if something repels matter
it is called whitehole opposite in shape
to blackhole.

