DERIVATION OF GRAVITATIONAL FORMULA

Voing Replan's Law $P^{L} = Kr^{3}$ and p is the period, $P = 2\pi r \left(\text{circumfrence by the Volvity of planet} \right)$

ad thus substituting it in earlier Replans epvahion

 $P = \frac{2\pi r}{v} \implies p^2 = kr^3$ $\frac{4\pi^2 r^2}{v^2} = kr^3$

How multiplying both sich by m (say m has absorbed in proportionality constant x)

$$\frac{mv^2}{r} = \frac{4\pi^2 m}{|c_r|}$$

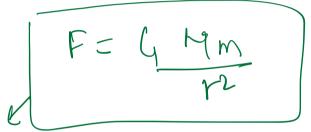
This we know as Lartoipetel force so,

Herefore. His trust on the granitational force keeping in in orbit around M.

Then Newton' from his 3rd law says that magnitude of force on and by should be equal. Le, to establish the hymnelisity

be me taking constant as
$$k = \frac{k'!}{m} \text{ and } k! = \frac{k!!}{m}$$

and Godaw Durineroel Granitation



Fora of granitetion formule.

G=6.673 x15" Nm2 kg-2