SPH 4U1 REVIEW tEST # 1

# kINEMATICS AND DYNAMICS

**Communication:** Definitions and explanations

* Cavendish’s Experiment to find the Universal Gravitational Constant
* Newton’s Laws (state)
* Friction (define)
* Normal Force (define)

**Knowledge:** Multiple choice, fill in the blank

* Newton’s Laws scenarios
* Use of five equations of acceleration
* Significant figures
* Graphing analysis

**Problems Solving:** full solution

* Acceleration (chase question) **a = v2-v1/t, d = v1t+1/2at2, d = v2t-1/2at2,**

**d = (v1+v2)t/2, 2ad=v22-v12**

* Forces (train question, **Fnet = ma, Fg = mg, Ff = µFN,** Free Body Diagrams)
* Universal Force of Gravitation **Fg=Gm1m2/r2, G = 6.67 x 10-11 Nm2/kg2**
* Projectile Motion
* Vectors and vector components