Year 2/A2 Statistics and Mechanics PLC   **Name: _____**

1) REGRESSION, CORRELATION AND HYPOTHESIS TESTING

I am able to…..

	☹	😐	☺
Understand exponential growth in bivariate data			
Use a change of variable to estimate coefficients in an exponential model			
Understand and calculate the product moment correlation coefficient			
Carry out a hypothesis test for zero correlation			

2) CONDITIONAL PROBABILITY

I am able to…..

	☹	😐	☺
Understand set notation in porbability			
Understand conditional probability			
Solve conditional probability prblems using two-way tables and Venn diagrams			
Use probability formulae to solve problems			
Solve conditional probability using tree diagrams			

3) THE NORMAL DISTRIBUTION

I am able to…..

	☹	😐	☺
Understand the normal distribution and the characteristics of a normal distribution curve			
Find percentage points on a standard normal curve			
Calculate values on a standard normal curve			
Find unkown means and/ or standard deviations for a normal distribution			
Approximate a binomial distribution using a normal distribution			
Select appropriate distributions and solve real life problems in context			
Carry out a hypothesis test for the mean of a normal distribution			

4) MOMENTS

I am able to…..

	☹	😐	☺
Calculate the turning effect of a force applied to a rigid body			
Calculate the resultant moment of a set of forces acting on a rigid body			
Solve problems involving uniform rods in equilibrium			
Solve problems involving non-uniform rods			
Solve problems involving rods on the point of tilting			

5) FORCES AND FRICTION

I am able to…..

	☹	😐	☺
Resolve forces into components			
Use the triangle law to find a resultant force			
Solve problems involving smooth or rough inclined planes			
Understand friction and the coefficient of friction			
Use F≤µR			

6) PROJECTILES

I am able to…..

	☹	😐	☺
Model motion under gravity for an object projected horizontally			
Resolve velocity into components			
Solve problems involving particles projected at an angle			
Derive the formulae for time of flight, range and greatest height, and the equation of the path of a projectile			

7) APPLICATIONS OF FORCES

I am able to…..

	☹	😐	☺
Find an unknown force when a system is in equilibrium			
Solve statics problems involving weight, tension and pulleys			
Understand and solve problems involving limiting equilibrium			
Solve problems involving motion on rough or smoooth inclined planes			
Solve problems including connected particles that require the resolution of forces			

8) FURTHER KINEMATICS

I am able to…..

	☹	😐	☺
Work with vectors for displacement, velocity and acceleration when using the vector equations of motion			
Use calculus with harder functions of time involving variable acceleration			
Differentiate and integrate vectors with respect to time			