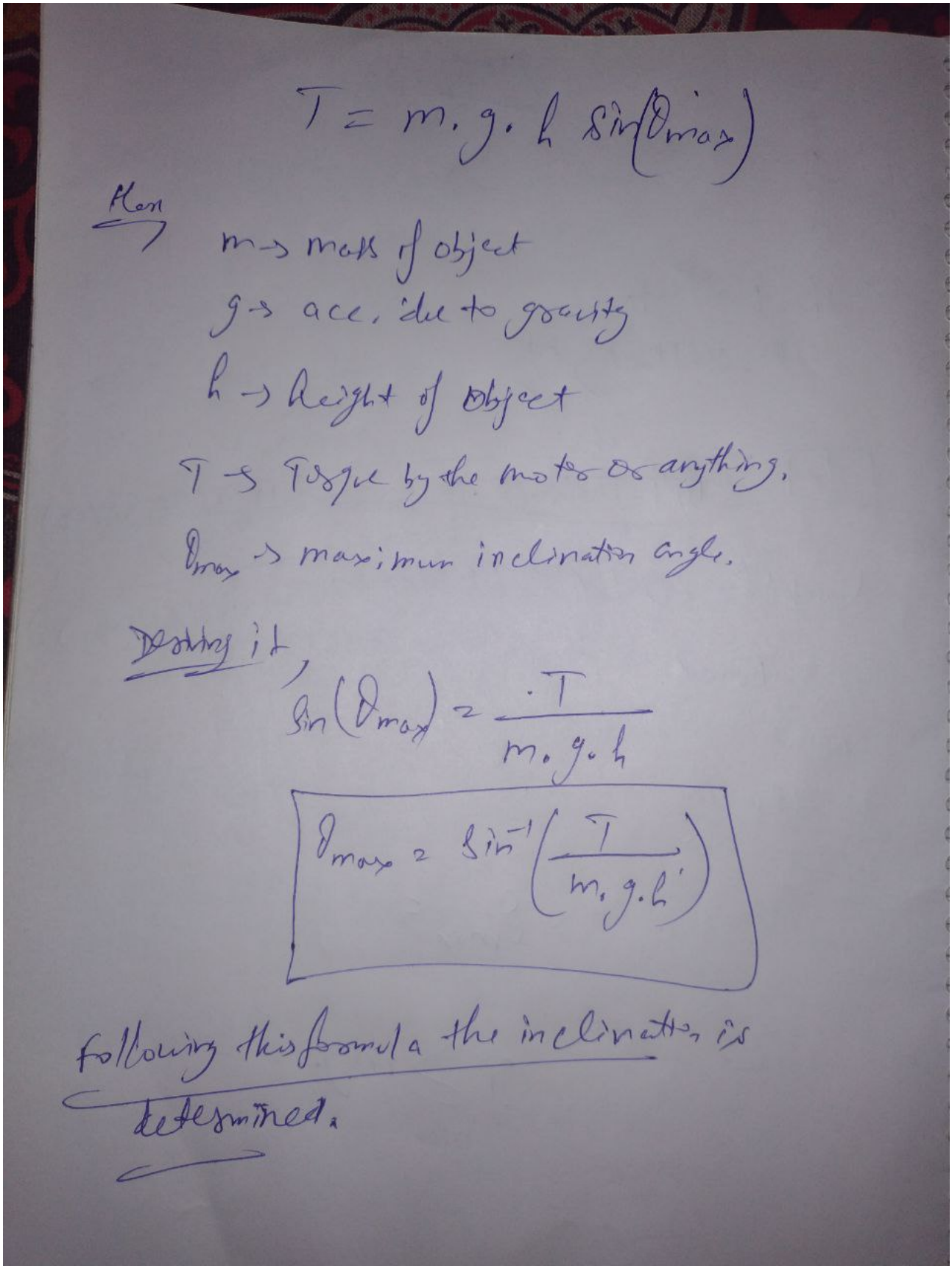
A() Parameters to be consider , while calculating the maximum angle of incliination ,

As the formula of the Maxmimum angle for inclination is :



Here the Dependent things are :

the masss fo the body
the height of the body
and the torque by the motor
as the acc . Due ot gravity be remain constant

Height of CoM (h): The vertical distance from the ground to the robot's center of mass. higher the distance , that makes balancing more difficult and reduces the maximum angle of inclination.

So essential to keep it slightly low,

Position relative to the wheels : The horizontal distance from the wheels' axis to the COM , more control over torque be needed in this case and also more complex to balance .

Motor Torque (T): The maximum torque that the motors can provide. Higher torque , correct larger deviations from the vertical position, enabling it to handle steeper inclines.

Other external minor Factors to consider are :

Wheel radius : as that be detemine the COM for the object and also factor in affecting or supporting the torque to result in accerleration.

Wheel Contraction : Deoendent on this the movement will occur , if no traction cant move.

Sensor Accuracy ： Sensor accuracy to correctly naviagte , and give response according to the situation or environment aound that .

Sensor Sensisiticty : Correct response time of the sensor to get the data in real time to tacke the tarck obstacle.

Sensor Fusion Algorithm : The fusion of the Gyroscipe and the Accelerometer, this be fusion be help the overall result of movement of robot in correct direction , and with correct speed.