

Question 4**(5 marks)**

Titan is the largest of Saturn's moons. Its orbital radius is 1.22×10^6 km. Use the Formulae and Data booklet and the data in the table below to determine the strength of Saturn's gravitational field where Titan orbits. Give your answer in N kg^{-1} and m s^{-2} .

Planet	Mass (Earth masses)
Mercury	0.055
Venus	0.815
Earth	1.000
Mars	0.107
Jupiter	318
Saturn	95
Uranus	14.5
Neptune	17.2
Pluto	0.002

_____ N kg^{-1}

_____ m s^{-2}