15 In this question, you can consider all the mass of the Earth to be concentrated at its centre.

Work to five significant figures using the following data.

mass of Earth = 5.9768×10^{24} kg

distance of Singapore from centre of Earth = 6.3782×10^{6} m

gravitational constant $G = 6.6730 \times 10^{-11}\,\text{N m}^2\,\text{kg}^{-2}$

What is the value of g, the gravitational field strength of the Earth, in Singapore?

A $9.8038\,\text{N kg}^{-1}$

B $9.8067\,\text{N kg}^{-1}$

C $9.8100\,\text{N kg}^{-1}$

D $9.8879\,\text{N kg}^{-1}$