## Question #43417, Physics, Other | for confirmation

500 m long pendulum is set up on a planet on which the acceleration due to gravity is 8.25 m/s squared. The period of this pendulum is?

The period of swing of a simple gravity pendulum depends on its length, the local strength of gravity .It is independent of the mass of the bob. If the amplitude is limited to small swings, the period T of a simple pendulum, the time taken for a complete cycle, is:

$$T = 2\pi\sqrt{\frac{l}{g}}$$

where T - the period of oscillation, l - length, g - acceleration due to gravity.

$T = 2*3.14\sqrt{500/8.25} = 48.88$ s

Answer: T =48.88 s