

Answer on Question #63731-Physics-Other

a retrain simple pendulum has a period of 1.6s. What is its period on the surface of mars?

Solution

$$T = 2\pi \cdot \sqrt{\frac{L}{g}}$$

where T is period, L is length of pendulum, g is acceleration by gravity.

On earth:

$$1.6 = 2\pi \cdot \sqrt{\frac{L}{(9.81)}}$$

On mars:

$$T = 2\pi \cdot \sqrt{\frac{L}{3.71}}$$

$$T = 1.6 \sqrt{\frac{9.81}{3.71}} = 2.6 \text{ s.}$$

Answer: 2.6 s.

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