

Chapter 10

GRAVITATION

EXAMPLE- 8:

The mass of brick is 2.5 kg and its dimensions are $20\text{ cm} \times 10\text{ cm} \times 5\text{ cm}$. Find the pressure exerted on the ground. ($g = 9.8\text{ m/s}^2$)

Solution:

Given $m = 2.5\text{ kg}$

$$l \times b \times h = 20\text{ cm} \times 10\text{ cm} \times 5\text{ cm}$$

$$\text{Area} = l \times b = 20\text{ cm} \times 10\text{ cm} = 200\text{ cm}^2$$

$$A = 2 \times 10^2 \times 10^{-4}\text{ m}^2.$$

$$\text{Pressure } P = \frac{F}{A} = \frac{mg}{A}$$

$$P = \frac{2.5 \times 9.8}{2 \times 10^{-2}}$$

$$P = 1225\text{ N/m}^2.$$