

QUESTION:

What is the pressure that an object exerts on the floor that has a weight of 500N and an area of .001m squared?

SOLUTION:

Pressure is the ratio of force F to the area S over which that force is distributed.

$$p = \frac{F}{s}$$

Here F = 500 N and S = 0.001 m². Hence

$$p = \frac{500}{0.001} = 0.5 \text{ MPa}$$

ANSWER:

$$p = \frac{500}{0.001} = 0.5 \text{ MPa}$$