



The National
Orthodox School
Shmaisani

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Subject: Science/ Physics

Name:

Title: Pressure Worksheet

Date:

Grade-Section: 8-CS

Question 1) A block of weight 850N has a length of 0.5 m and a width of 0.4 m and a height of 0.3 m.

a) Find the smallest pressure that this block exerts on the ground.

$$P_{min} = \frac{F}{A_{max}} = \frac{850}{0.5 \times 0.4} = \frac{850}{0.2} = 4250 \text{ N/m}^2$$

b) Find the largest pressure that this block exerts on the ground.

$$P_{max} = \frac{F}{A_{min}} = \frac{850}{0.4 \times 0.3} = \frac{850}{0.12} = 7083.33 \text{ N/m}^2$$

Question 2) The force applied to a 0.4 cm by 0.8 cm brake pad produces a pressure of 500 N/cm². Calculate the force applied to the brake pad.

$$A = l \times w = 0.4 \times 0.8 = 0.32 \text{ cm}^2$$

$$F = P \times A = 500 \times 0.32 = 160 \text{ N}$$

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