



The National
Orthodox School
Shmaisani

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Subject: Science/ Physics

Name:

Title: Pressure Homework

Date:

Grade-Section: 9IB

Question 1) A block of weight 1200N has a length of 0.2 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.

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

Question 2) The force applied to a 0.25 cm by 0.75 cm brake pad produces a pressure of 500 N/cm². Calculate the force applied to the brake pad.

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Question 3) A swimming pool contains water with a density of 10^3 kg/m^3 . Calculate the pressure due to the water at a depth of 2.5 m. Ignore the effect of the atmosphere.

Question 4) A swimming pool contains olive oil with a density of 895 kg/m^3 . Calculate the pressure due to the oil at a depth of 1.75 m. Ignore the effect of the atmosphere.

Question 5) A swimming pool contains water with a density of 10^3 kg/m^3 . Calculate the height that a pressure due to the water at of $1.5 \times 10^4 \text{ Pa}$ takes place. Ignore the effect of the atmosphere.

Question 6) A man of mass 80 kg is standing on the beach, knowing that the area of his foot is 8 cm^2 . What is the pressure he is exerting on the sand?