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.

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

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

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

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.

$$A = l \times w = 0.4 \times 0.8 = 0.32 \; cm^2$$

$$F = P \times A = 500 \times 0.32 = 160 N$$