Pressure Questions   **Name** …………………………

pressure = force ÷ area

1. Calculate the pressure on a dancer's foot when his partner (who weighs 600 N) steps on his foot with her heel (area 1 cm^2) with all her weight.

2. Calculate the pressure exerted on the floor when an elephant weighing 30,000 N stands on two feet, which each have an area of 0.1 m^2.

3. A man on a snowboard exerts a pressure of 0.25 N/cm^2 on the snow. If the man weighs 750 N, what is the area of his snowboard?

4. A car exerts a pressure of 200,000 Pa on the road. The total area of the tyres in contact with the road is 0.1 m^2. What is the weight of the car?

5. Water with a pressure of 500 kPa pushes on the porthole of a submarine. If the force on the porthole is 125,000 N, what is the area of the porthole? If the porthole is circular, what is its diameter?