Advanced Chemistry   Name _____
Calculating/Converting Pressure

Instructions: *Calculate the following pressure problems. SHOW ALL WORK. Round your answer to the correct number of significant figures.* *Make sure you have the correct units!*

1) Calculate the pressure, in Pascals, produced by a force of 800.0 N acting on an area of 2.000 m^2.

2) The pressure of a gas contained in a cylinder with a moveable piston is 300.0 Pa. The area of the piston is 0.500 m^2. Calculate the force that is exerted on the piston.

3) Find the pressure, in Pascals, of a stand that has a mass of 254.0 kg and an area of 20.00 m^2.

4) Suppose a woman that has a mass of 59007.02 grams and wearing high-heeled shoes momentarily places all her mass on the heel of one foot. If the area of the heel is 0.000645160 in^2, calculate the pressure exerted in **pascals.**

Instructions: *Convert the following pressure values to the correct units using conversion factors. SHOW ALL WORK. Round your answer to the correct number of significant figures.* *Make sure you have the correct units!*

1) The typical atmospheric pressure on top of Mt. Everest (29,028 ft) is about 265.0 torr. Convert this pressure to:
    a) atm

b) pascals

c) psi

2. Perform the following conversions:

a) 0.6850 bar to kilopascals

b) 655.0 mm Hg to atmospheres

c) 44.10 psi to torr