

PRESSURE UNIT CONVERSIONS WORKSHEET

Name _____ **AAA**

Period _____ Date: _____

$$1 \text{ atm} = 760 \text{ mm Hg} = 101325 \text{ Pa} = 101.325 \text{ kPa} = 14.7 \text{ lb/in}^2 = 1.013 \text{ bar}$$

1. The air pressure for a certain tire is 109 kPa. What is this pressure in atmospheres?
(Answer: 1.08 atm).
2. The air pressure inside a submarine is 0.62 atm. What would be the height of a column of mercury balanced by this pressure? **(Answer: 470 mm Hg).**
3. The weather news gives the atmospheric pressure as 1.07 atm. What is this atmospheric pressure in mm Hg? **(Answer: 813 mm Hg).**
4. An experiment at Sandia National Labs in New Mexico is performed at 758.7 mm Hg. What is this pressure in atm? **(Answer: 0.9983 atm).**
5. A bag of potato chips is sealed in a factory near sea level. The atmospheric pressure at the factory is 761.3 mm Hg. The pressure inside the bag is the same. What is the pressure inside the bag of potato chips in Pa? **(Answer: $1.015 \times 10^5 \text{ Pa}$)**
6. The same bag of potato chips from problem 5 is shipped to Denver, Colorado, where the atmospheric pressure is 99.82 kPa. What is the difference (in Pa) between the pressure in the bag and the atmospheric pressure? **(Answer: 1680 Pa).**
7. The pressure gauge on a compressed air tank reads 43.2 lb/in². What is the pressure in atm?
(Answer: 2.94 atm).
8. The pressure in the tire of an automobile is 34.8 lb/in². What is the pressure in kPa?
(Answer: 240 kPa).