Mrs. Kornelsen

Exit Slip – Boyle's Law and Converting Pressures

1. Change the following from the initial conditions to the new conditions:
   a) 150.0 mL oxygen gas at 10.50 kPa is changed to 9.91 kPa (2 marks)

   b) 1.40 atm of carbon dioxide in 1.2 L is changed to 0.705 L (2 marks)

2. Gas is placed into a syringe until the pressure is 100.0 kPa. What is the new pressure if

   a) the volume in the syringe is doubled? (2 marks)

   b) the volume in the syringe is tripled? (2 marks)

3. Find the pressure in mm Hg of the gas in the following manometer. (1 mark)

   700 mmHg

   P_{gas}
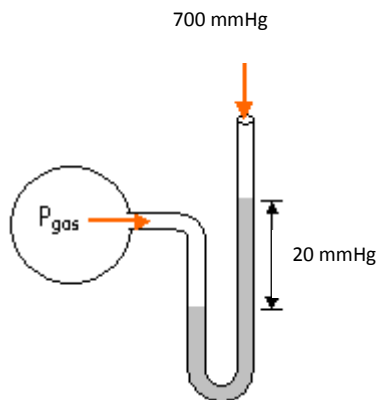
   20 mmHg

4. A soccer ball is attached to an open-ended manometer. The mercury level in the manometer is 18.0 mm higher on the side attached to the ball than on the side open to the atmosphere. Atmospheric pressure has already been determined to be 730.0 mm Hg. What is the gas pressure, in mmHg, inside the ball? (2 marks)

5. If a gas pressure is recorded at 400 mmHg what would that pressure be in atm? (2 marks)

6. If a vapour pressure is listed at 59.4psi what is that pressure in mmHg? (2 marks)

7. A gas container is fitted with a manometer. The level of the mercury is 13 mm higher on the open side. Using a laboratory barometer, you find that the atmospheric pressure is 700 mmHg. What is the pressure, in atmospheres, of the gas in the container.   (3 marks)