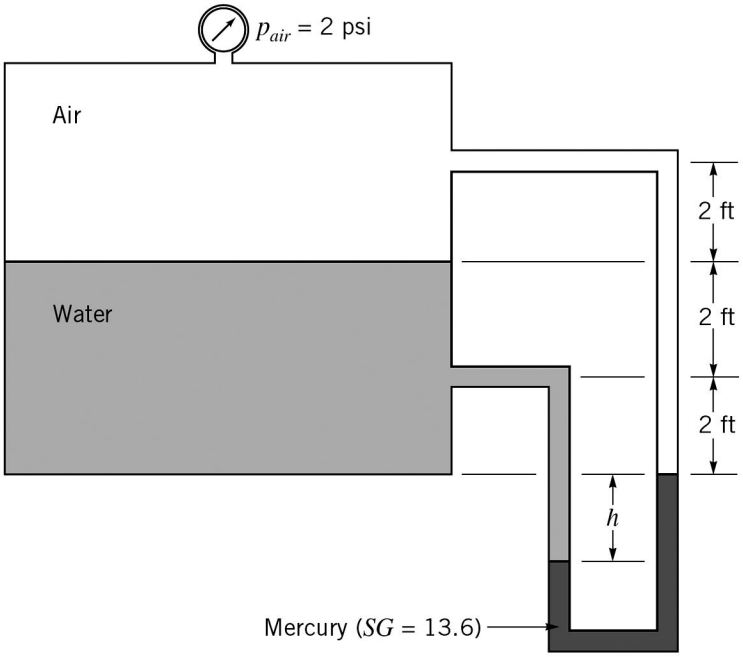
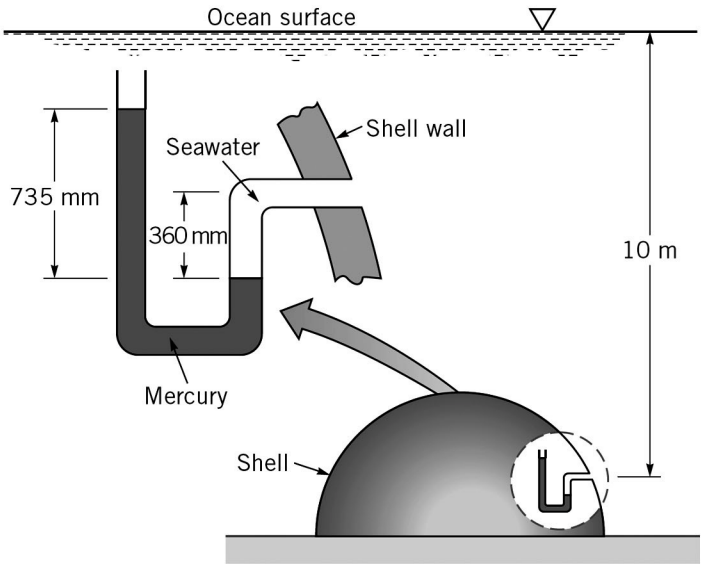
2.36 A U-tube mercury manometer is connected to a closed pressurized tank as illustrated in Fig. P2.36. If the air pressure is 2 psi, determine the differential reading, h. The specific weight of the air is negligible.



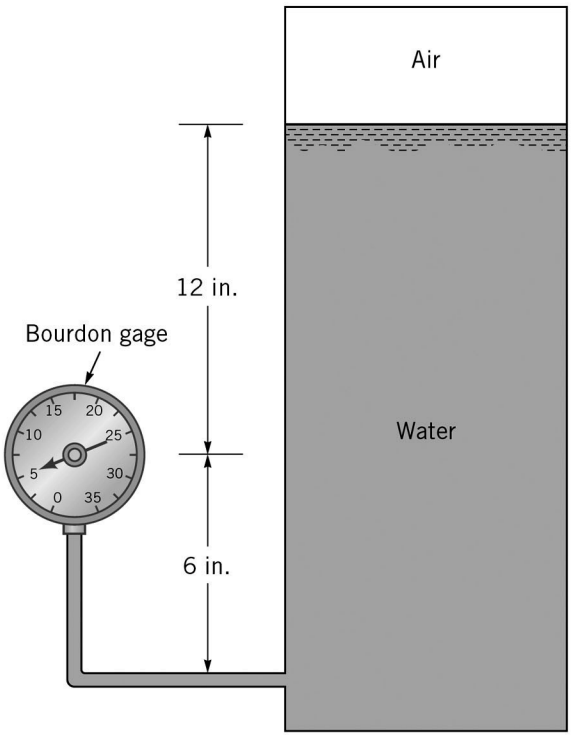
■ **Figure P2.36**

2.50 WILEY An air-filled, hemispherical shell is attached to the ocean floor at a depth of 10 in. as shown in Fig. P2.50. A mercury barometer located inside the shell reads 765 mm Hg, and a mercury U-tube manometer designed to give the outside water pressure indicates differential reading of 735 mm Hg as illustrated. Based on these data, what is the atmospheric pressure at the ocean surface?



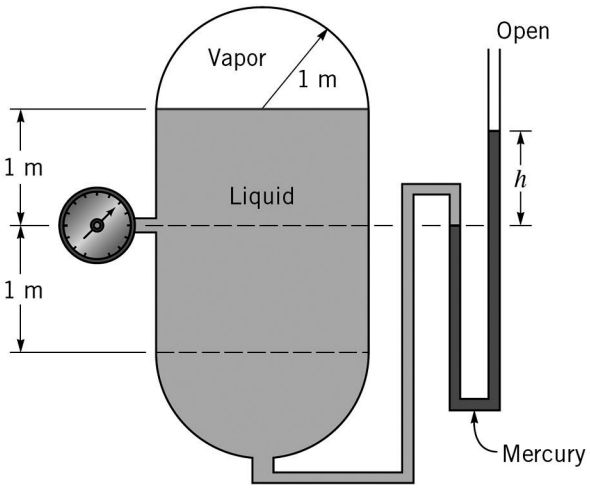
■ **Figure P2.50**

2.27 Bourdon gages (see **Video V2.4** and Fig. 2.13) are commonly used to measure pressure. When such a gage is attached to the closed water tank of Fig. P2.27 the gage reads 5 psi. What is the absolute air pressure in the tank? Assume standard atmospheric pressure of 14.7 psi.



■ **Figure P2.27**

2.46 The cylindrical tank with hemispherical ends shown in Fig. P2.46 contains a volatile liquid and its vapor. The liquid density is 800 kg/m^3, and its vapor density is negligible. The pressure in the vapor is 120 kPa (abs) and the atmospheric pressure is 101 kPa (abs). Determine: (**a**) the gage pressure reading on the pressure gage, and (**b**) the height, h, of the mercury, manometer.



■ **Figure P2.46**