

4. Knowing the standard air pressure value in several units allows us to set up a variety of conversion factors:

$$(a) \ P = \left(28 \text{ lb/in.}^2\right) \left(\frac{1.01 \times 10^5 \text{ Pa}}{14.7 \text{ lb/in.}^2}\right) = 190 \text{ kPa} .$$

$$(b) \ (120 \text{ mmHg}) \left(\frac{1.01 \times 10^5 \text{ Pa}}{760 \text{ mmHg}}\right) = 15.9 \text{ kPa} ,$$

$$(80 \text{ mmHg}) \left(\frac{1.01 \times 10^5 \text{ Pa}}{760 \text{ mmHg}}\right) = 10.6 \text{ kPa} .$$