

**Pre-AP Chemistry/AP Chemistry
Unit #17—Gas Laws**

Pressure Conversions

1 atm = 760 torr = 760 mm Hg

1 atm = 101.3 kPa

1 atm = 14.69 psi

Convert 147.2 kPa to atmospheres

$$\frac{147.2 \text{ kPa}}{101.3 \text{ kPa}} \left| \frac{1 \text{ atm}}{101.3 \text{ kPa}} \right. = 1.453 \text{ atm}$$

Convert 3.45 atm to kPa.

$$\frac{3.45 \text{ atm}}{1 \text{ atm}} \left| \frac{101.3 \text{ kPa}}{1 \text{ atm}} \right. = 349.485 \text{ kPa}$$

Convert 0.357 atmospheres to torr.

$$\frac{0.357 \text{ atm}}{1 \text{ atm}} \left| \frac{760 \text{ torr}}{1 \text{ atm}} \right. = 271.320 \text{ torr}$$

Convert 890 mm Hg to atmospheres.

$$\frac{890 \text{ mm Hg}}{760 \text{ mm Hg}} \left| \frac{1 \text{ atm}}{760 \text{ mm Hg}} \right. = 1.171 \text{ atm}$$

Convert 945 mm Hg to kPa

$$\frac{945 \text{ mm Hg}}{760 \text{ mm Hg}} \left| \frac{1 \text{ atm}}{760 \text{ mm Hg}} \right| \left| \frac{101.3 \text{ kPa}}{1 \text{ atm}} \right. = 118.628 \text{ kPa}$$

Convert 36 kPa to torr

$$\frac{36 \text{ kPa}}{101.3 \text{ kPa}} \left| \frac{1 \text{ atm}}{101.3 \text{ kPa}} \right| \left| \frac{760 \text{ torr}}{1 \text{ atm}} \right. = 270.089 \text{ torr}$$