(8) Theoretical yield:

$$9.9\text{ g } Pb(NO_3)_2 \left|\frac{1\text{ mol}}{331.2\text{ g}}\right|\left|\frac{2\text{ mol } PbO}{2\text{ mol } Pb(NO_3)_2}\right|\left|\frac{223.2\text{ g}}{1\text{ mol}}\right| = 6.7\text{ g PbO}$$

$$\frac{5.5}{6.7}\times 100 = \boxed{82.1\%\text{ yield}}$$

(9) $$12.7\text{ g Cu}\left|\frac{1\text{ mol}}{63.5\text{ g Cu}}\right|\left|\frac{2\text{ mol Ag}}{1\text{ mol Cu}}\right|\left|\frac{107.9\text{ g}}{1\text{ mol}}\right| = 43.2\text{ g Ag}$$

$$\frac{38.1}{43.2}\times 100 = \boxed{88.2\%\text{ yield}}$$

Ch. 10

(1) In kinetic theory, we assume that gas particles:
- Are very small and occupy an insignificant volume
- Move in constant random motion
- Collide elastically (no kinetic energy is lost in the collision)

(2) 1 atm = 760 mm Hg = 101.3 kPa

(3) $$35.0\text{ kPa}\left|\frac{1\text{ atm}}{101.3\text{ kPa}}\right. = 0.345\text{ atm}$$

$$35.0\text{ kPa}\left|\frac{760\text{ mm Hg}}{101.3\text{ kPa}}\right. = 263\text{ mm Hg}$$

(4) STP = 101.3 kPa, 273 K (0° C)

$3.00 \times 22.4 = 67.2$ L

(5) If pressure decreases above sea level, it should increase below sea level.