Bryant Margo Ch. 16

1) A solution is a homogenous mixture of solid, liquid, or gas.

2) $M = mol/v$ $\cdot v$ K: V=3L M=0.8M
$mol = Mv$ UK: mol
$mol = 0.8M\,0.3L$
$mol = 0.24$ moles

3) $M = mol/vol$
M= molarity mol= moles vol= volume

4) $M = mol/vol$ K: 100mL → .1L
$\times .1L$ $1M = mol/.1L \times .1L$ 1M
$mol = .1\,mol$ UK: mol

5) $M = mol/vol$ K: .5M
$\times vol$ $.5M = .25mol/vol \cdot vol$ .25mol
$\frac{.5M}{.5M} = \frac{.25mol}{.5M}$ UK: volume
$vol = .5L$

6) Molarity is the concentration of a solution. The amount of moles per volume

7) The fluid has faster molecules when hotter and slower when colder.

8) K: $M_1 = 2.00M\ MgSO_4$ UK: V_1
$M_2 = 0.400M\ MgSO_4$
$V_2 = 100.mL$ of $0.400M\ MgSO_4$
$V_1 = \frac{M_2 \times V_2}{M_1} = \frac{0.4M \times 100mL}{2.00M} = 20mL$

9) K: 85 mL ethanol UK: % ethanol

250 mL of solution

$$\frac{\text{vol solute}}{\text{vol solution}} \times 100\%$$

$$\frac{85 \text{ mL ethanol}}{250 \text{ mL}} \times 100\% = 34\% \text{ ethanol}$$

10) K: 4. M KI UK: ml

250 mL of .760 M KI

$M_1 \times V_1 = M_2 \times V_2$

$$V_1 = \frac{M_2 V_2}{M_1}$$

$$V_1 = \frac{250(.760)}{4} = 47.5 \text{ ml}$$

47.5ml