

# NURSING CALCULATIONS: FORMULAS

1Kg = 1000g ; 1g = 1000mg ; 1mg = 1000mcg ; 1L = 1000mL

$$\text{Volume Required (mL)} = \frac{\text{Strength Required}}{\text{Stock Strength}} \times \frac{\text{Volume of Stock Solution}}{1}$$

$$\text{Tablets Required} = \frac{\text{Strength Required}}{\text{Stock Strength}}$$

$$\text{Flow Rate (mL / hr)} = \frac{\text{Volume (mL)}}{\text{Time (hr)}} \quad \text{OR} \quad \text{Flow Rate (mL / hr)} = \frac{\text{Volume (mL)}}{\text{Time (min)}} \times \frac{60}{1}$$

$$\text{Time (hr)} = \frac{\text{Volume (mL)}}{\text{Rate (mL / hr)}} \quad \text{Volume (mL)} = \text{Flow Rate (mL / hr)} \times \text{Time (hr)}$$

Microdrip : 1mL = 60 drops; Drop Factor = 60 drops / mL

Macro drip : 1mL = 20 drops; Drop Factor = 20 drops / mL

$$\text{Flow Rate (dpm)} = \frac{\text{Volume (mL)} \times \text{Drop Factor (drops / mL)}}{\text{Time (min)}}$$

$$\text{Time (min)} = \frac{\text{Volume (mL)} \times \text{Drop Factor (drops / mL)}}{\text{Flow Rate (dpm)}}$$

$$\text{Volume (mL)} = \frac{\text{Flow Rate (dpm)} \times \text{Time (min)}}{\text{Drop Factor (drops / mL)}}$$

$$\text{Concentration of Stock (mg / mL)} = \frac{\text{Stock Strength (mg)}}{\text{Volume of Stock Solution (mL)}}$$

$$\text{Flow Rate (mL / hr)} = \frac{\text{Hourly Dosage (mg / hr)}}{\text{Concentration (mg / mL)}}$$

$$\text{Hourly Dosage (mg / hr)} = \text{Rate (mL / hr)} \times \text{Concentration (mg / mL)}$$

$$\text{Single Dose (mg / dose)} = \frac{\text{Dosage per Day} \times \text{Child's Body Weight}}{\text{Number of Doses per Day}}$$