DOSAGE CALCULATION FORMULAS
Review HESI for additional mathematical conversions such as ratio or dimensional analysis.

Conversion Steps:
1. Convert weight:
   a. Pounds to kg: Divide pounds by 2.2 kg
2. Convert medication: Multiply by 1000
   a. grams to mg
      i. 1 gram X 1000 = 1000 mg
   b. mg to mcg
      i. 1 mg X 1000 = 1000 mcg
3. Convert medication concentration:
   <u>Amount of medication in solution (gram, mg, mcg, units)</u>
   Volume of solution (mL, liters)
4. Use desired mathematical conversions (ratio, equation, dimensional analysis)

Drops per minute

gtt/min = <u>total volume (mL) X drop factor (gtt)</u>
total time (minutes)

Heparin or Insulin Drips (dosed in units/hr) OR mg/hr (desired/have)

mL/hr = <u>ordered medication dose (mg/hr or units/hr)</u>
medication concentration (mg/mL or units/mL)

mcg/kg/min or mcg/min

INFUSION RATE GIVEN	FIND INFUSION RATE
To find mcg/kg/min or mcg/min	To find mL/hr
If a weight is not given, leave it out of the equation.	*If a weight is not given, leave it out of the equation.*
<u>med conc (mcg/mL) X infusion rate (mL/hr)</u> weight (kg) X 60 (min/hr)	<u>Wt (kg) X dosage (mcg/kg/min or mcg/min) X 60 (min/hr)</u> med concentration (mcg/mL)

BURNS (Parkland Formula)

4 ml X % TBSA X weight (kg)

% burn is calculated without a decimal – ex: 50% burns would be calculated as 50 not 0.50

Remember this formula is in milliliters and if the question asks for liters, divide by 1000