

## Calculating Percentage Solutions

These would be the 2 expressions most commonly used when calculating percentage solutions.

Sample questions

Example a) An 8 lb rabbit needs 300 ug/kg of a 1% ivermectin solution. What is the dose for the rabbit? Answer step 3

How many milliliters of ivermectin should be given? answer step 4

1) convert to kg:  $8/2.2=3.63$  kg

2) then multiply by the drug  $(3.63 \text{ kg})(300 \text{ ug/kg})=1090.9 \text{ ug}$

3) then divide  $1090.9\text{ug}/1000 \text{ ugmg}=1.09 \text{ mg}$

4) then divide  $1.09\text{mg}/10\text{mg/ml}$  (or 1 % solution) = .1 ml

example b) How much 50 % (C1) dextrose must be added to 1 l (V2) of LRS to make a solution that contains 5% (C2) dextrose? unknown - x-(V1)

the formula is  $C1V1= C2V2$

**$C1V1=C2V2$**  is used to calculate an unknown quantity where two solutions/mixtures are proportional ...

**$C1V1$**  = Concentration/amount (start) and Volume (start)

**$C2V2$**  = Concentration/amount (final) and Volume (final)

1)  $50(x) = 5(1000)$

2)  $50x = 5000$

3)  $50x=5000$

4)  $x=5000/50$

6)  $x= 100$  ml of 50% dextrose