

## Basic Mathematics for Vet Techs – Unit Factor Examples

Sample 1: Change cup to tsp

$$\frac{1 \text{ cup}}{1} \times \frac{16 \text{ tbsp}}{1 \text{ cup}} \times \frac{3 \text{ tsp}}{1 \text{ tbsp}} = 48 \text{ tsp}$$

Sample 2: Change 2 gallons to tbsp

$$\frac{2 \text{ gal}}{1} \times \frac{16 \text{ cup}}{1 \text{ gal}} \times \frac{16 \text{ tbsp}}{1 \text{ cup}} = 512 \text{ tbsp}$$

Sample 3: Change 20 liters to tsp

$$\frac{20 \text{ L}}{1} \times \frac{1 \text{ gal}}{3.79 \text{ L}} \times \frac{16 \text{ cups}}{1 \text{ gal}} \times \frac{16 \text{ tbsp}}{1 \text{ cup}} \times \frac{3 \text{ tsp}}{1 \text{ tbsp}} = \frac{15360}{3.79} = 4052.77 \text{ tsp}$$

Sample 4: Change 200 oz to lbs

$$\frac{200 \text{ oz}}{1} \times \frac{1 \text{ lb}}{16 \text{ oz}} = 12.5 \text{ lb}$$

Sample 5: Change 72 kg to oz

$$\frac{72 \text{ kg}}{1} \times \frac{2.2 \text{ lb}}{1 \text{ kg}} \times \frac{16 \text{ oz}}{1 \text{ lb}} = 2534.4 \text{ oz}$$

Sample 6: Change 175 lbs to grams

$$\frac{175 \text{ lbs}}{1} \times \frac{1 \text{ kg}}{2.2 \text{ lbs}} \times \frac{1000 \text{ g}}{1 \text{ kg}} = 79545.45 \text{ g}$$

Sample 7: Change 2 tons to grams

$$\frac{2 \text{ tons}}{1} \times \frac{2000 \text{ lbs}}{1 \text{ ton}} \times \frac{1 \text{ kg}}{2.2 \text{ lbs}} \times \frac{1000 \text{ g}}{1 \text{ kg}} = 1818181.82 \text{ g}$$

Sample 8: How many gallons of water in a full 10,240 cubic feet tank

$$\frac{10240 \text{ cu ft}}{1} \times \frac{1728 \text{ cu in}}{1 \text{ cu ft}} \times \frac{1 \text{ gal}}{231 \text{ cu in}} = 76600.52 \text{ gal}$$

Sample 9: How many 10 cc injections from four 750 ml bottles of medicine

$$\frac{4 \text{ bottles}}{1} \times \frac{750 \text{ ml}}{1 \text{ bottle}} \times \frac{1 \text{ cc}}{1 \text{ ml}} = 3000 \text{ cc}$$

Sample 10: How many cattle can be vaccinated with a 2.5 cc shot from 3 cases of medicine. Each case has twelve 1 quart bottles.

$$\frac{3 \text{ cases}}{1} \times \frac{12 \text{ bottles}}{1 \text{ case}} \times \frac{1 \text{ qt}}{1 \text{ bottle}} \times \frac{0.946 \text{ L}}{1 \text{ qt}} \times \frac{1000 \text{ ml}}{1 \text{ L}} \times \frac{1 \text{ cc}}{1 \text{ ml}} \times \frac{\text{cow}}{2.5 \text{ cc}} = 13622 \text{ cows}$$