

Calculations Practice
ANSC 230
Fall 2017

Look here for more practice problems: <http://web.ics.purdue.edu/~rallrich/space/math.html>

Here's a video to walk you through unit conversions: <https://youtu.be/7N01RJLwpPI>

Volume Conversions

1 gallon = 4 quarts = 8 pints = 16 cups = 128 fluid oz.

4 quarts = 3.8 liters

1 liter = 10 dL = 100mL

1. How much is 25 gallons
 - a. In pints?
 - b. In fluid oz?
 - c. In liters?
2. How much is 6 liters
 - a. In gallons?
 - b. In pints?
 - c. In mL?
3. How much is 23 dl
 - a. In cc?
 - b. In mL?
 - c. In gallons?

Weight Conversions

1 lb = 454 grams = .454 kg = 16 oz.

4. How much is 5 lbs
 - a. In grams?
 - b. In kg?

Distance Conversions

One meter = 39.37 inches

1 meter = 10 dm = 100 cm = 1000 mm

5. How much is 100 meters
 - a. In inches?
 - b. In mm?

Converting Between Weight and Volume

6. 1 pint = 1 lb
7. 1 gallon = 8.3 lbs

Blood Calculations

Blood weight = 7% body weight

Packed Cell Volume = 45%

Density of Blood = 1 kg / liter

1. A horse weighs 1000lbs.
 - a. How much does its blood weigh (lbs)?
 - b. What volume of blood does it have (pints)?
 - c. What volume of blood does it have (gallons)?
 - d. If it loses 10 lbs of blood, what % of its blood has it lost?
 - e. What does its plasma weigh?
2. A horse has a total blood volume of 20 gallons.
 - a. How much does the horse weigh? (lbs)
 - b. What is its packed cell volume?

Percentage Problems

Check out this 2 minute video on percentages: <https://youtu.be/3ulgek4u0i8>

1. A sheep with 14 gallons of blood loses 7 gallons. What percentage of its blood has it lost?
2. A pig weighing 200 lbs loses 4 pints of blood. What percent of its blood has it lost?