Simplify all answers and show your work!

1) 21 ft = _________ yd  
2) 790 mg = _________ g  
3) 4.1 L = _________ mL

4) 270 sec = _________ min  
5) 4.5 qt = _________ pt  
6) 27 cm = _________in  
   (1 in = 2.54 cm)

7) 9 L = _________ gal  
   (1 gal ≈ 3.78 L)  
8) 6 ft 2 in = _________ in  
9) 6 lbs 12 oz = _________ oz.

10) Write the following decimals as percents:
   a) 0.34  
   b) 4.334  
   c) 0.002

11) Write the following percents as decimals:
   a) 27.5%  
   b) 9.8%  
   c) 0.79%

12) 7 out of 9 people prefer vanilla ice cream. If there are 540 people at a party, how many would prefer vanilla ice cream?

13) Find the best buy on Corn Flakes cereal: Justify your answer. 
    16 ounces for $1.99  
    20 ounces for $2.39  
    12 ounces for $1.59

14) One serving of Banana Colada Fuze beverage is 8 fl. oz. and contains 90 calories. How many calories would the entire bottle contain if the entire bottle holds 18.5 fl. oz.?

15) In order to make a liquid solution for his shop, John must mix \( \frac{2}{3} \) cups of pure chemical with 3 gallons of water. How much water should he mix with \( \frac{1}{6} \) cups of pure chemical in order to make the solution?
16) If you weigh 142 pounds, how many kilograms will this be? (2.2 lbs ≈ 1 kg)

17) A clinic dispensed a certain medication at a rate of 240 mg per hour.
   a) How many grams were dispensed in a 24-hour period?
   b) How many grams were dispensed in a week’s time?

18) A supermarket chain ships hamburger meat by placing 8 packages of hamburger in a box, with each package weighing 3 lb 4 oz.
   a) How many pounds does each box of hamburger weigh?
   b) If the Augusta store receives four boxes of hamburger, how many pounds of hamburger does the Augusta store receive?

19) One package of Kool-Aid mixture yields \( \frac{1}{2} \) gallon of beverage. If one serving of Kool-Aid is 1 cup, how many servings are there in this \( \frac{1}{2} \) gallon of Kool-Aid?

20) A 3.4 meter rope is tied to a 5.8 meter rope; but when the ropes are tied together, 15 cm of length is lost to form the knot. What is the length of the tied rope?

21) The recommended daily allowance (RDA) of fat intake is 65 grams. What is the RDA of fat intake in ounces? (28.35 g ≈ 1 oz.)

22) Sarah’s cat weighs 9.3 kg! The vet recommends that the cat lose 3500 grams of weight. How much should the cat weigh?