Lab Assignment #7

This lab is due at 9:35 AM on Monday 2/12 and is worth 6 points. This may be done individually, or in a group of 2 or 3 people.

1) A 7-year-old girl has a head circumference at the 25th percentile. Write True or False for each:

a) This girl's head circumference is greater than the head circumference of 25% of all 7-year-old girls.

b) This girl's head circumference is less than the head circumference of 25% of all 7-year-old girls.

c) Twenty-five percent of 7-year-old girls have a larger head circumference than this girl.

d) Twenty-five percent of 7-year-old girls have a smaller head circumference than this girl.

Be sure to include units of measure for problems 2-5.

2) For a population of 500 high school football teams, the average number of hours of practice per week is 14.3, with a standard deviation of 3.9. Assume this variable is approximately normally distributed.
a) What is the 80th percentile for hours of practice per week?
b) What is the 60th percentile for hours of practice per week?
c) What percentile is 11.0 hours?

3) The average amount of money earned by a video store in one day is μ = $820, and the standard deviation is σ = $205. Assume this variable is approximately normally distributed.
a) What is the 10th percentile for money earned in a day?
b) What is the first percentile for money earned in a day?
c) What percentile is $1160?

4) Assume heights of math teachers are normally distributed with $\mu = 68.3$ inches and $\sigma = 3.8$ inches.
a) What is the 50th percentile for math teacher height? (Hint: no calculator needed)
b) What percentile is 66.0 inches?

5) A large sample of mushrooms purchased from a grocery store shows that the distribution of weight of mushrooms is approximately normal, with mean 0.62 ounces and standard deviation 0.21 ounces.
a) What is the 13th percentile for mushroom weight?
b) What percentile is 0.67 ounces?