Probability Test

I. Average hours worked by manufacturing workers is normally distributed with a mean of 41 hours and a standard deviation of .5 hours. Graph and solve the following problems.

A. $P(41 \text{ hours} \leq x < 42.5 \text{ hours})$

B. $P(x < 40.345 \text{ hours})$

C. $P(41.75 \text{ hours} \leq x < 42 \text{ hours})$

D. $P(39.5 \text{ hours} \leq x < 42.5 \text{ hours})$

II. Study time at State University is normally distributed with a mean of 15 hours per week and a standard deviation of 3 hours. Graph and solve the following problems.

A. How many hours must a student study to be in the top 1% of the students attending State University?

B. Calculate the fourth decile.