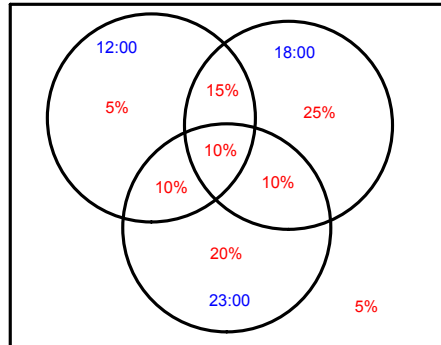5.1 Question 4

40% watch 12:00 news
60% watch 18:00 news
50% watch 23:00 news
25% watch 12:00 and 18:00
20% watch 12:00 and 23:00
20% watch 18:00 and 23:00
10% watch all three

a) What percentage watched at least one program
   $n(12:00 \cup 18:00 \cup 23:00) = 95\%$
b) What percent watch none of these programs
   5%
c) What percent view the news at 12:00 and 18:00 but
   not 23:00
   5% + 15% + 25% = 45%
d) What percent view only one of these shows
   n(12 only) + n(18 only) + n(23 only)
   5% + 25% + 20% = 50%
e) What percent view exactly two of these shows?
   10% + 15% + 10% = 35%

Sep 25-9:39 PM

5.1 Question 8
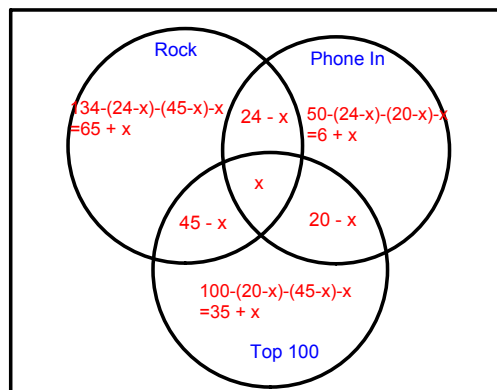
DJ has 200 selections
including

the top 100 (100 songs)
134 rock
50 phone in
45 rock in top 100
20 phone in top 100
24 phone in for rock songs

a) How many phone in for rock songs in top 100?

   $n(Rock \cup Phone\text{-}In \cup Top100) = 200$
   $\therefore$
   $(65 + x)+(24-x)+(6+x)+(45-x)+x+(20-x)+(35+x)=200$
   $195 + x = 200$
   $x = 5$

b) How many were in the top 100 but neither phone in or
   rock selections?
   $35 + x = 35 + 5 = 40$

Sep 25-9:53 PM