1. A university professor asked his class of 42 students when they had studied for his class the previous weekend. Their responses were as follows:
   9 had studied on Friday.
   18 had studied on Saturday.
   30 had studied on Sunday.
   3 had studied on both Friday and Saturday.
   10 had studied on both Saturday and Sunday.
   6 had studied on both Friday and Sundays.
   2 had studied on Friday, Saturday, and Sunday.

(a) Illustrate the above information in a Venn diagram.

(b) Assuming that all 42 students responded and answered honestly, answer the following questions.

i. How many students studied on Sunday but not on either Friday or Saturday?

ii. How many students did all of their studying on one day?

iii. How many students did not study at all for this class last weekend?

(c) Let $A$ be the set of students who studied on Friday, $B$ be the set of student who studied on Saturday, and $C$ the set of students who studied on Sunday. Using set notation, write the sets of students referred to in part (b) in terms of the sets $A$, $B$, and $C$. An analogous example is that the set of students who studied on both Friday and Saturday is represented by the set $A \cap B$. You may want to refer to your Venn diagram.

i. 

ii. 

iii.