Worksheet 1 on Sets

1. In a class of 36 students, all students like Chocolate (C) ice-cream, while 24 of the students like Vanilla (V) ice-cream.

   (i) Show the above information on a Venn Diagram;
   (ii) Determine the number of students who like Chocolate (C) but not Vanilla (V);
   (iii) State, using set notations, the relationship between V and C.

2. The universal set, U, is the set of whole numbers from 20 to 32 inclusive.
   C = { multiples of four}

   D = { even numbers}.

   (i) List the members of sets C and D.
   (ii) How many subsets can be formed from set C?
   (iii) Draw a Venn Diagram showing the sets C, D and U.

3. There are 80 members in a hiking club. Members in this club were given awards for Attendance (A) or Fitness (F).

   64 members received awards for either Attendance or Fitness;

   20 members received awards for BOTH Attendance and Fitness;

   3x members received awards for Attendance only;

   x members received awards for Fitness only.

   (i) Draw a Venn Diagram showing the above information;
   (ii) How many members didn't receive an award;
   (iii) How many members received awards for fitness only?

4. A survey of 92 women was conducted to determine the number of women who shopped on Fridays (F) or Saturdays.

   56 women shopped on Fridays;

   2x women shopped only on Saturdays;

x women shopped both on Fridays and Saturdays;

18 women did not shop either on Fridays or on Saturdays.

(i) Draw a Venn Diagram to show the above information;

(ii) Write an expression, in terms of x, which represents the total number of women in the survey.

(iii) Find the number of women who shopped only on Fridays.