1. What is the difference between subset and real subset?

2. A={13,27,21,90,115} and B={21,115,20}
   Is B a real subset of A or not? Show reasons for your answer.

3. C={10,20,30,40,50} and D={f,g,h,i}
   Prove,|C X D|=|C|.|D|

4. A company consists of 150 employees where 80 have laptops,110 have cell phones,125 students have iPods,62 students have both a laptop and a cell phone,58 students have both a laptop and iPod,98 students have both a cell phone and an iPod,50 students have all three items.

   a)Construct venn diagram.

   b) How many students have just a cell phone?

   c) How many students have none of the mentioned items?

   d) How many students have an iPod and laptop but not a cellphone?

5. 14 people only play football,5 people play both football and basketball while 30 people are playing one sport.What is the percentage of people playing basketball?
6. Find set builder notation of A

   a) A={p,q,r,s}

   b)A={0,3,6,9,12}

   c)A={-4,-3,-2,-1,0,1,2}

   d)A={2,4,8,16,32}

   e)A={red,green,yellow}

7. Draw the Venn diagrams for each of these combinations of the sets A, B, and C.

a. $A \cap (B \cup C)$

b. $A' \cap B' \cap C'$

c. $(A - B) \cup (A - C) \cup (B - C)$

8. Suppose that A is the set of sophomores at your school and B is the set of students in discrete mathematics at your school. Express each of these sets in terms of A and B.

   a) the set of sophomores taking discrete mathematics in your school

   b) the set of sophomores at your school who are not taking discrete mathematics

   c) the set of students at your school who either are sophomores or are taking discrete mathematics.

9. Find the domain of the following functions and represent them using the

   (i) Set builder format, (ii) Intervals, and (iii) Number line

   a. $f(x) = \sqrt{}(3X^2 - X + 2)$

   b. $g(x) = \frac{5x+3}{1-X-2X^2}$