# Hibernia College Section 2 Set Theory and Binary Operations

(2.2.2) Cardinality

The number of distinct elements in a finite set is called its cardinality.

(2.2.3) Power Set

## (2.3) Operations on Sets

### (2.3.1) Complement of a set

### (2.3.2) Binary Operations on Sets

* Union
* Intersection
* Set Difference
* Symmetric Difference

A \otimes B

{2, 3, 4, 6, 7, 8}

## Exam Questions

Question 2

Describe the following set by the rules of inclusion method.

Describe the following set by the listing method the set of positive multiples of 3 which are less than 20.

Let A and B be subsets of universal set U. Use the membership rule to prove that

(A^\prime \cap B)^\prime = A \cup B^\prime

Shade the region corresponding to this set on a Venn Diagram

Given the universal set \mathcal{U} = {1,2,3,4,5,6,7,8,9} and the subsets A=\{1,3,5,7\}

B = \{6,7,8,9} list the set A^\prime \cap B)^\prime