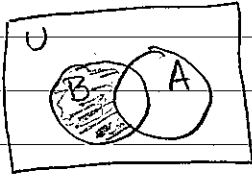


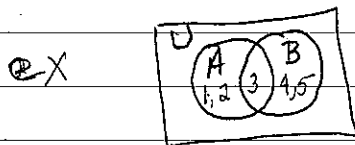
Section 2.3

3. The complement of set A is made up of the elements in the universal set that are not in set A .

4. $B - A$



6. $n(A \cup B) \neq n(A) + n(B)$ whenever $n(A \cap B) > 0$



Let $U = \{1, 2, 3, \dots, 10\}$, $A = \{1, 3, 5, 7, 9\}$, $B = \{1, 2, 3, 4, 5, 6\}$
 $C = \{2, 4, 6, 8\}$

9. $A \cap B = \{1, 3, 5\}$

12. $B \cap C = \{2, 4, 6\}$

14. $A \cap \emptyset = \emptyset$

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

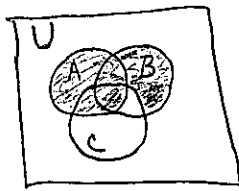
$\{1, 3, 5, 7, 9\} \cap \{1, 2, 3, 4, 5, 6, 7, 8\} = \{1, 3, 5\}$

21. $M \cap E = \{x : x \text{ is human-made and edible}\}$
 $\{\text{potato chip, bread, pizza}\}$

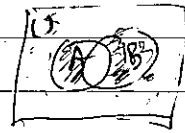
23. $E - M = \{x : x \text{ is edible, but not human-made}\}$
 $\{\text{apple, fish, banana}\}$

25. $M' \cap G' = \{x : x \text{ is not human-made and does not grow on a plant}\}$
 $\{\text{fish}\}$

$$31. A \cup (B - C)$$

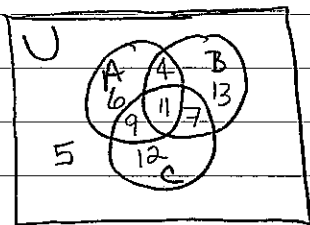


$$36. A \cup B - (A \cap B) \text{ or } (A \cap B)' - (A \cup B)'$$



$$37. (A \cup B)'$$

$$40. (A \cap B) \cup (A \cap C)$$



$$43. n(A) = 6 + 4 + 11 + 9 = 30$$

$$44. n(A \cup B) = 30 + 13 + 7 = 50$$

$$46. n(A - C) = 6 + 4 = 10$$

$$49. n((A \cup B) \cap C) = 9 + 11 + 7 = 27$$

59. $P \cap (G \cup W)$ cars priced above \$19,000, and has good safety rating or has warranty is at least three years
 $\{b, d, g, h\}$

60. $G' \cap C'$ cars that do not have good safety rating and is not a compact
 $\{c, e\}$

75. $(A \cup B)'$ can be mistaken for $A' \cup B'$ because it is as if you distribute the the operation through like $-(5 + x) = -5 + x$

77. Not always true if $A \subseteq B$ then $n(A) < n(B)$

ex $A = \{2, 6, 10\}$, $B = \{6, 7, 10\}$ $A \subseteq B$, but $n(A) \not< n(B)$

84. no, (music AND American) or British is not the same as (music AND (American or British)) grouping makes a difference