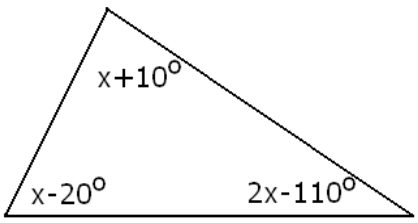
Math 118
Spring 2005

Sample Exam for Exam 1

For problems 1-7. Let $U = \{a, b, c, d, e, f, g, h, i, j\}$, $A = \{a, b, c, d, g, i\}$, $B = \{a, c, e, i, j\}$, and $C = \{b, e, f, h, j\}$

1. Draw a Venn diagramm depicting these sets.
2. Find $(B \cup C')'$.
3. Find $(A \cap C')' \cup (A' \cap C)$.
4. Find $(A \cup B') \setminus C'$.
5. List all subsets of B.
6. How many 5-element subsets does U have? (You don't have to list these sets.)
7. Is it true that $(A \cap B) \cap C' \subseteq (A \cup B) \cap C'$?
8. Find $n(B)$ if we know that $n(A) = 18$, $n(A \cup B) = 27$, and $n(A \cap B) = 4$.
9. Find the measure of an inner angle in a regular polygon of 15 sides.
10. A club has 12 members. In their annual election, they elect their president, vice president, and secretary. How many different outcome is possible?
11. Find x based on the picture below.



12. Find the perimeter and area of the parallelogram shown below.