MATH 110 – QUIZ 1 – 4 SEPTEMBER 2009

Answer all of the following questions in the space provided.

1. (2 pts. each) Let $U = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$, $S = \{2, 4, 6\}$ and $T = \{2, 3, 5, 7\}$. List the elements of the following sets.

(a) S'

$S' = \{1, 3, 5, 7, 8, 9, 10\}$

(b) $S \cup T$

$S \cup T = \{2, 3, 4, 5, 6, 7\}$

(c) $S' \cap T$

$S' \cap T = \{3, 5, 7\}$

2. (4 pts.) Let $U = \{\text{all Nobel Prize winners}\}$, $A = \{\text{Americans who have won a Nobel Prize}\}$, and $P = \{\text{Winners of the Nobel Peace Prize}\}$.

(a) Describe in words the set $A \cap P'$.

$A \cap P' = \{$American Nobel Prize winners who have not won the Nobel Peace prize$\}$

(b) Describe in set-theoretic notation the set {Nobel Prize winners who are not American or have received the Nobel Peace Prize}.

$A' \cup P$