

Name:

1. If $A = \{1, 2, 4\}$ and $B = \{2, 3, 5\}$, compute

[1] (a) $A \cup B$

[1] (b) $A \cap B$

[1] (c) $A \setminus B$

2. Let A, B , and C be subsets of some universal set U . Prove that if $A \subseteq B$, then $A \cap C \subseteq B \cap C$.

[4]

3. Is it true that if $A \cap C \subseteq B \cap C$, then $A \subseteq B$? Give a suitable proof or counterexample.

[3]