MA1126 Assignment7

[due Wednesday 15th March 2017]

1. Investigate
   (a) $\tilde{A} \cup \tilde{B} = (A \cup B)^{\sim}$
   (b) $\tilde{A} \cap \tilde{B} = (A \cap B)^{\sim}$
   (c) $\vec{A} \cup \vec{B} = \overrightarrow{(A \cup B)}$
   (d) $\vec{A} \cap \vec{B} = \overrightarrow{(A \cap B)}$
2. Use the definition of connected and a result from Assignment 6 to prove $\Re$ is connected.
3. Let A and B be connected sets with nonempty intersection. Prove that $A \cup B$ is connected.