

## PS06

January 22, 2018

- a. Proof #1:
- b. Proof #2:
- c. Proof #3: This proof is in error because the closure rule of intersection is not bidirectional. Using closure to prove that a language is regular can only be done when the language in question is part of a closure expression and both its pair AND the resulting languages are regular.  
Ex:  $B$  is proven regular in this situation:  $A$  and  $C$  are regular AND  $A \cap B = C$ .