

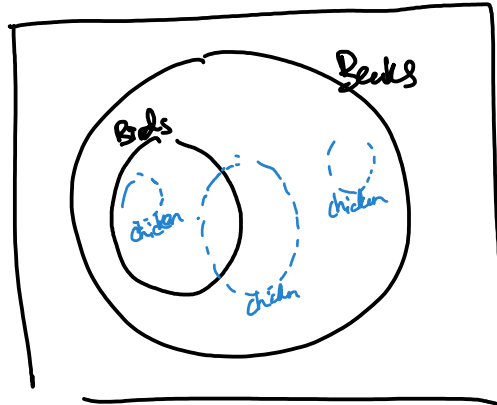
# Euler Diagrams and Review

Tuesday, October 30, 2018 12:56 PM

73. All chickens have beaks  
 All birds have beaks

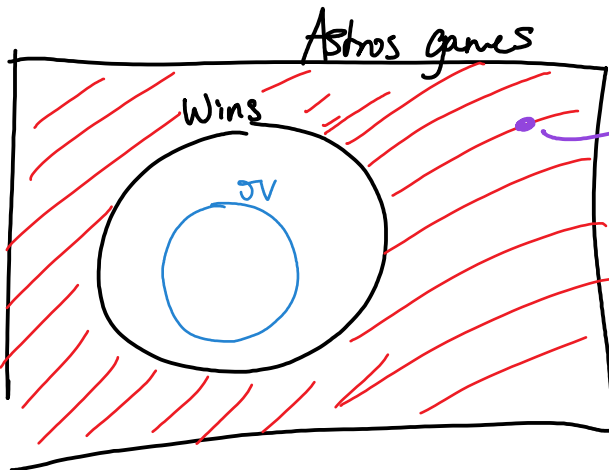
$\therefore$  All chickens are birds

Invalid because we don't know for sure if the chicken circle is in the bird circle



74. If Justin Verlander pitches, then the Astros win = All Verlander-pitched games  
 The Astros did not win — (Win)<sup>c</sup>

$\therefore$  Verlander does not pitch



did not win definitely not a JV-pitched game.

$\therefore$  JV did not pitch  
Valid argument

71. All chickens have beaks  
 All hens are chickens

$\therefore$  All hens have beaks

Valid - hen circle is inside the beak circle

