

A Venn diagram illustrating set theory. A large light gray oval represents a set  $E$ . A black curve, representing a partition, divides  $E$  into two regions:  $E \cap A_1$  on the left and  $E \cap A_2$  on the right. The entire diagram is enclosed in a black rectangular frame. The label  $A_1$  is positioned to the left of the oval, and  $A_2$  is positioned to the right. The label  $E$  is located in the upper right portion of the oval.

$A_1$

$E \cap A_1$

$E \cap A_2$

$E$

$A_2$