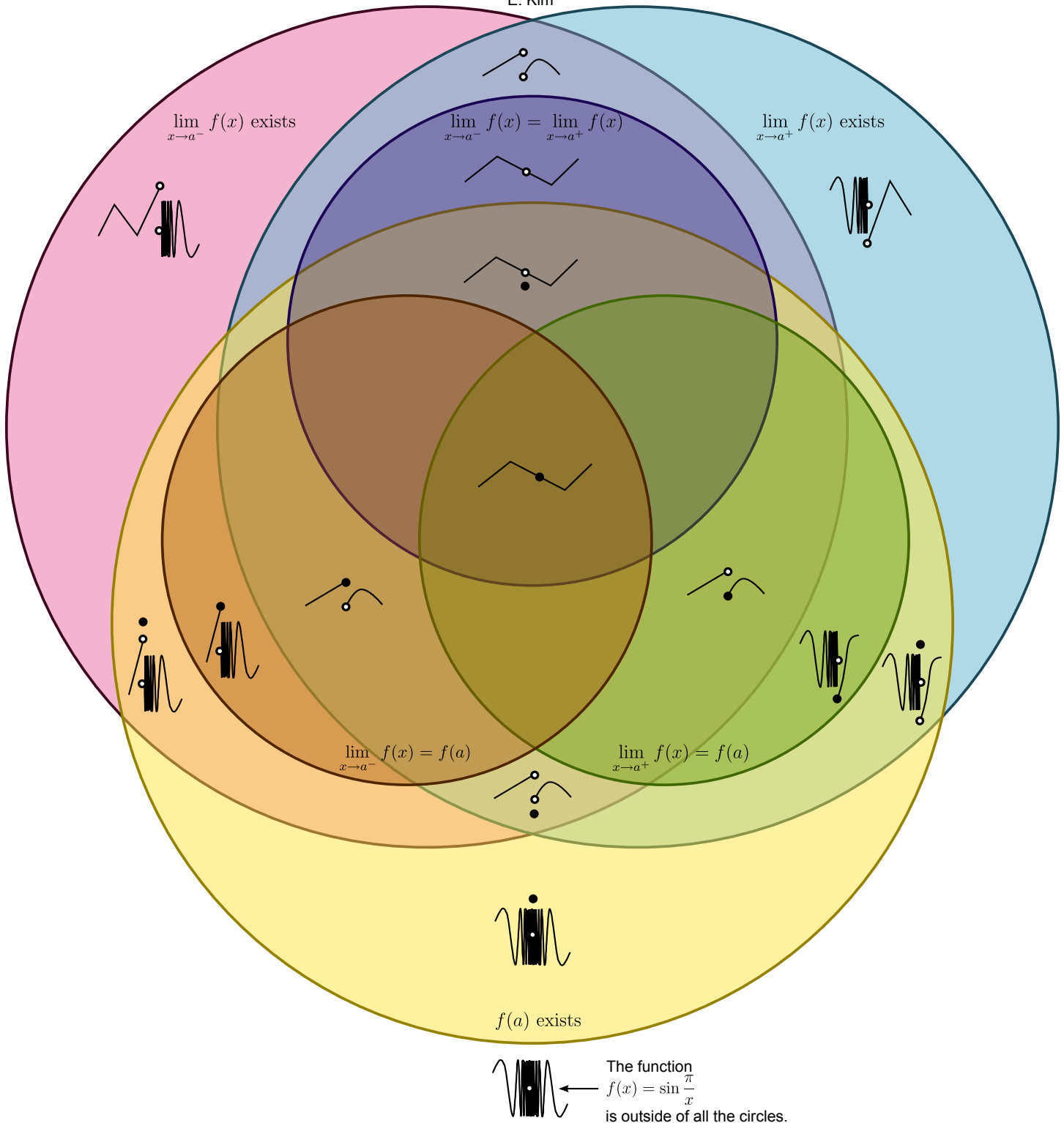


# Limits and Continuity

## Venn Diagram

E. Kim



Three regions are empty because of the transitive property of equality.  
 Notation and terminology follows Stewart. *Calculus: Early Transcendentals*. (7th Edition.)

For the three inner circles:

- the small circle centered at the top contains the functions which **have a** [two-sided] **limit** at  $a$ .
- the small circle at the bottom-left contains the functions which are **continuous from the left** at  $a$ .
- the small circle at the bottom-right contains the functions which are **continuous from the right** at  $a$ .
- the region common to all three small circles contains the functions which are **continuous** at  $a$ .