

This miniproject asks you to investigate the set operation of the symmetric difference. Read the definition that is given in your textbook just before Exercise 32 and the problems that relate to them, numbers 32–36. Then do the following problems.

- (a) Prove $A \oplus B = (A \cup B) - (A \cap B)$ using an element argument.
- (b) Prove $A \oplus (B \oplus C) = (A \oplus B) \oplus C$ using either an element argument or part (a).
- (c) Use the fact that \oplus is commutative and associative to prove that
 $(A \oplus B) \oplus (C \oplus D) = (B \oplus C) \oplus (A \oplus D)$. Your proof can be a two-column proof.