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Quiz #16
Mathematics 309a Abstract Algebra
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Following the notation of the text and the last class, we saw that the definition for adding equivalence classes of pairs in $S = \{(a, b) \mid a, b \in D, b \neq 0\}$ (where D is an integral domain) was given by

$$[(a, b)] \oplus [(c, d)] = [(ad + bc, bd)]$$

Write out all the details to prove that \oplus is associative.