

The diagram illustrates the relationship between iterated and double integrals. It features two integral expressions with curved arrows indicating their equivalence.

The left expression is an iterated integral:

$$\int_a^b \int_c^d f(x, y) dx dy.$$

The right expression is a double integral over a rectangular region:

$$\int_R f(x, y) dx dy.$$

Two curved arrows connect the expressions, indicating they are equivalent. The top arrow points from the iterated integral to the double integral, and the bottom arrow points from the double integral to the iterated integral.