**MR1907843 (2003c:26018)** 26B05 (26B15)

**Aksoy, Asuman** (1-CMKC); **Martelli, Mario [Martelli, Mario Umberto]** (1-CMKC)

**Mixed partial derivatives and Fubini's theorem.**

*College Math. J.* **33** (2002), *no. 2,* 126–130.

(i) Let $g \in C(U, \mathbf{R})$ and $[a, b] \times [c, d] \subset U$. Then (Fubini's theorem)

$$\int_a^b \int_c^d g(x, y)dydx = \int_c^d \int_a^b g(x, y)dxdy.$$

(ii) Assume that $f \in C^1(U, \mathbf{R})$ and $f_{xy} \in C(U, \mathbf{R})$. Then $f_{yx}$ exists and $f_{yx} = f_{xy}$ in $U$.

In the article it is proved that Propositions (i) and (ii) are equivalent.

Reviewed by *Zbigniew Grande*