

Exercises

E24.17 [1V7] Prove Young's inequality: fixed $a, b > 0$, $p, q > 1$ such that $1/p + 1/q = 1$ then

$$ab \leq \frac{a^p}{p} + \frac{b^q}{q} \quad (24.18)$$

with equality if and only if $a^p = b^q$; prove this using an appropriate function study.

Solution 1. [1V8]

See also [194].