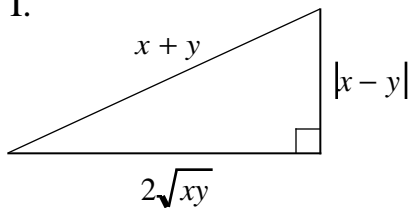


Proof Without Words:
Padoa's Inequality
(Alessandro Padoa, 1868-1937)

If a, b, c are the sides of a triangle, then

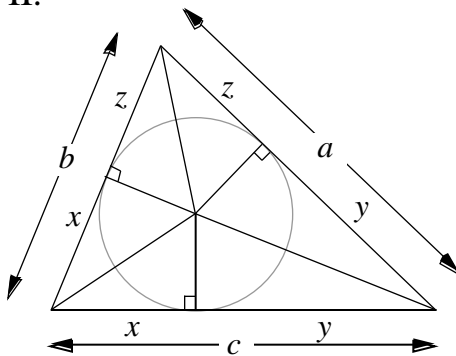
$$abc \geq (a + b - c)(b + c - a)(c + a - b).$$

I.



$$x + y \geq 2\sqrt{xy}$$

II.



$$\begin{aligned} abc &= (y + z)(z + x)(x + y) \\ &\geq 2\sqrt{yz} \cdot 2\sqrt{zx} \cdot 2\sqrt{xy} \\ &= (2z)(2x)(2y) \\ &= (a + b - c)(b + c - a)(c + a - b) \end{aligned}$$

—ROGER B. NELSEN
LEWIS & CLARK COLLEGE
PORTLAND, OR 97219