# Georg Mohr vinderseminar ~~1998~~ 2006

Uligheder

**Opgave 1** Antag $a, b, c > 0$. Vis at

$$2^{a+b} + 2^{b+c} + 2^{c+a} < 2^{a+b+c+1} + 1$$

**Opgave 2** Vis at

$$\frac{x}{y+z} + \frac{y}{x+z} + \frac{z}{x+y} \geq \frac{3}{2}$$

for $x, y, z > 0$.

**Opgave 3** Lad $A, B, C, D$ være vinklerne i en firkant. Vis at

$$\sin\left(\frac{A}{2}\right) \sin\left(\frac{B}{2}\right) \sin\left(\frac{C}{2}\right) \sin\left(\frac{D}{2}\right) \leq \frac{1}{4}$$