1-masala

$a, b, c > 0$ bo'lsin. Isbotlang:

$$\frac{a^4}{b + c} + \frac{b^4}{c + a} + \frac{c^4}{a + b} \geq \frac{a^3 + b^3 + c^3}{2}.$$

2-masala

$a, b, c > 0$ bo'lsin. Isbotlang:

$$a^4 + b^4 + c^4 + abc(a + b + c) \geq a^3b + b^3c + c^3a + ab^3 + bc^3 + ca^3.$$

3-masala

$a, b, c > 0$ bo'lsin. Isbotlang:

$$\sqrt{a} + \sqrt{b} + \sqrt{c} \leq 3\sqrt{\frac{a + b + c}{3}}.$$

4-masala

$a, b, c, d > 0$ bo'lsin. Isbotlang:

$$a + b + c + d \geq 4\,(abcd)^{\frac{1}{4}}.$$

5-masala

$a, b, c, d > 0$ bo'lsin. Isbotlang:

$$\frac{a^2}{b + c} + \frac{b^2}{c + d} + \frac{c^2}{d + a} + \frac{d^2}{a + b} \geq \frac{a + b + c + d}{2}.$$

6-masala

$a \leq b \leq c \leq d$ va $x \leq y \leq z \leq t$ bo'lsin. Isbotlang:

$$ax + by + cz + dt \geq at + by + cz + dx.$$

7-masala

$x > 0$ bo'lsin. Isbotlang:

$$e^x \geq 1 + x + \frac{x^2}{2} + \frac{x^3}{6}.$$

8-masala

$a, b, c > 0$ bo'lsin. Isbotlang:

$$(a^2 + b^2 + c^2)^2 \geq 3(a^3 b + b^3 c + c^3 a).$$

9-masala

$a, b, c > 0$ bo'lsin. Isbotlang:

$$a \ln(a) + b \ln(b) + c \ln(c) \geq (a + b + c)\ln\left(\frac{a + b + c}{3}\right).$$

10-masala

$a, b, c > 0$ bo'lsin. Isbotlang:

$$\frac{a}{b + c} + \frac{b}{c + a} + \frac{c}{a + b} + 3 \geq 4 \cdot \frac{a + b + c}{ab + bc + ca}.$$