

Mustaqil ishlash uchun masalalar

1-masala:

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

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

2-masala.

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

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

3-masala.

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

$$\frac{1}{a+b} + \frac{1}{b+c} + \frac{1}{c+a} \geq \frac{9}{2(a+b+c)}.$$

4-masala.

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

1. $a^3 + b^3 + c^3 + 3abc \geq a^2b + b^2c + c^2a + ab^2 + bc^2 + ca^2$
2. $a^2b + b^2c + c^2a + ab^2 + bc^2 + ca^2 \geq 6abc$

5-masala.

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

$$\left(\frac{a}{b+c}\right)^2 + \left(\frac{b}{c+a}\right)^2 + \left(\frac{c}{a+b}\right)^2 \geq 3/4.$$

Ya'ni:

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