

Докажите неравенство:

$$\frac{1}{1 \times 2} + \frac{1}{2 \times 3} + \frac{1}{3 \times 4} + \dots + \frac{1}{99 \times 100} < 1$$

$$\frac{1}{1 \times 2} = \frac{1}{1} - \frac{1}{2}$$

$$\frac{1}{2 \times 3} = \frac{1}{2} - \frac{1}{3}$$

$$\frac{1}{3 \times 4} = \frac{1}{3} - \frac{1}{4}$$

$$\frac{1}{99 \times 100} = \frac{1}{99} - \frac{1}{100}$$

$$+ \frac{1}{1} - \frac{1}{100} = \frac{99}{100}$$