

Inequalities – Q1 [Practice/E] (21/6/23)

Briefly describe possible methods for solving the inequality

$$\frac{1}{x} < x$$

Solution

Method 1: Multiply both sides by x^2 , and consider critical points

Method 2: Treat the cases $x < 0$ and $x > 0$ separately

Method 3: Rearrange as $\frac{1}{x} - x < 0$, and consider critical points

Method 4: Sketch $y = \frac{1}{x}$ and $y = x$, and consider points of intersection