

1. Simplify the expression:  $\frac{1}{x} - \frac{1}{x} + \frac{1}{x}$

2. Calculate:  $\cos \frac{\pi}{4} - \sin \frac{\pi}{4}$

3. Solve the equation:  $\log_3 (3x - 8) = 2$

4. Solve the inequality:  $x^2 - 5x + 6 < 0$

5.  $\frac{1}{x^2} = 2$