

Ujian 1 Olimpiade SMP Matematika Intermediate

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1. • Determine the solution set of

$$2 \leq x^2 - x < 6$$

- Determine the solution set of

$$\frac{2}{x} \geq x + 1$$

2. For $a, b \in \mathbb{R}^+$, prove that

$$4(a^3 + b^3) \geq (a + b)^3$$

3. The roots of $x^2 - 2px - 5q$ are m and n . The roots of $x^2 - 2mx - 5n$ are p and q . $p \neq q \neq m \neq n$. What is $p + q + m + n$?

ANSWER: