**UM 204: QUIZ 2**

**Jan. 19, 2024**

**Duration.** 15 minutes

**Maximum score.** 10 points

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**You are not allowed to assume the existence of the ordered field of real numbers.**

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**Problem.** Let $\{a_n\}_{n\in\mathbb{N}}$ and $\{b_n\}_{n\in\mathbb{N}}$ be two equivalent sequences of rational numbers. Show that $\{a_n\}_{n\in\mathbb{N}}$ is $\mathbb{Q}$-Cauchy if and only if $\{b_n\}_{n\in\mathbb{N}}$ is $\mathbb{Q}$-Cauchy.