Evaluation of Proof Exercise

Following the instructions for (linked) *Evaluation of Proofs* exercises (which also are posted on the course homework page), evaluate the below justification of the given conjecture.

► . **Conjecture A**. For each real number x, if x is irrational and m is an integer, then mx is irrational.

Proposed Proof. Let x be an irrational number. This means that for all integers a and b with $b \neq 0$

$$x \neq \frac{a}{b}. \tag{1}$$

Hence, we may conclude that

$$mx \neq \frac{ma}{b} \tag{2}$$

and, therefore, mx is irrational. □

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