

Problem: Infinite Grid -1

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Prelude

A twist on famous infinite grid of resistors problem, which seemingly breaks down the technique used there. However, we can introduce a non-physical intermediate object to make solving this possible. Procedures like this are very common in physics, from complex quantities, which can never be an observable, all the way to ghost fields in QFT.

Problem

Consider an infinite grid of resistors, but this time with one edge removed:

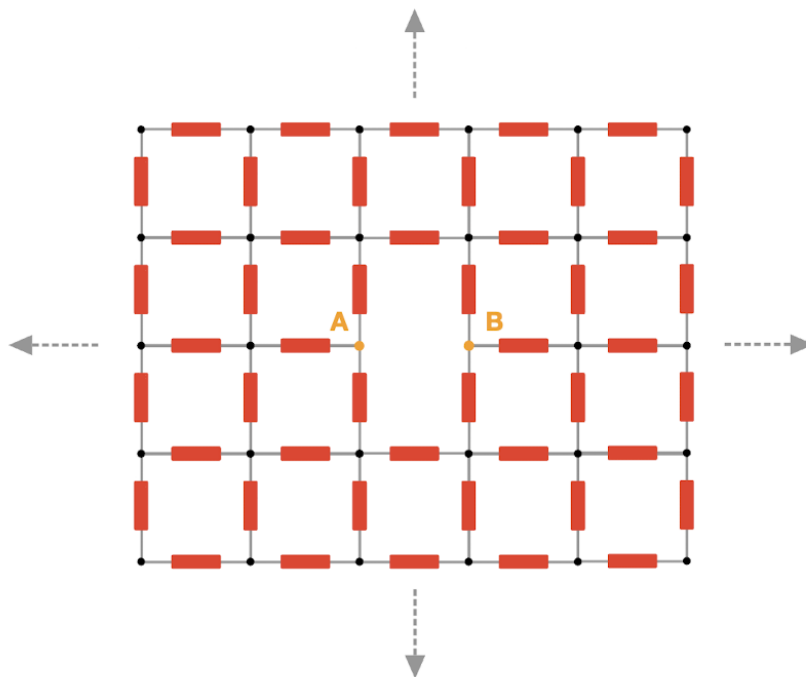


Figure 1: Arrangement for this problem

What is the equivalent resistance between vertices A and B now?

Tip: What is a removed edge physically? Can you build one out of resistors (maybe an unphysical resistor)?