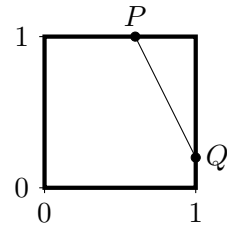# Probability on the Unit Square

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1 Problem Statement

Points P and Q are randomly sampled from a uniform distribution on two sides of a unit square. Let d be the random variable that denotes the length of the chord $|PQ|$ (see the figure). What is the probability that $d \geq 1$?

2 Solution of the Problem