HW 2—Sampling-based motion planning

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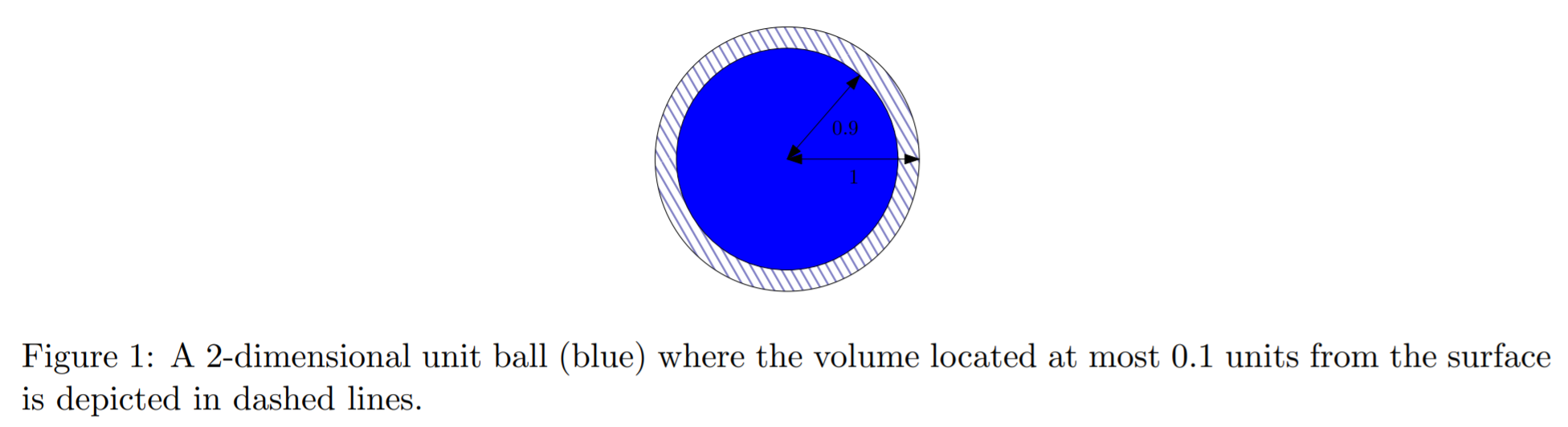
Warmup

1. In a 2-dimensional unit ball (namely, a disk), how much of the volume is located at most 0.1 units from the surface?

(c) Roughly 20%

The volume of ring with radius of ~0.95R, most be greater then 10% of the area.  
Volume of 60% sound to much.

The intuition is roughly 20%.



Test our intuition:

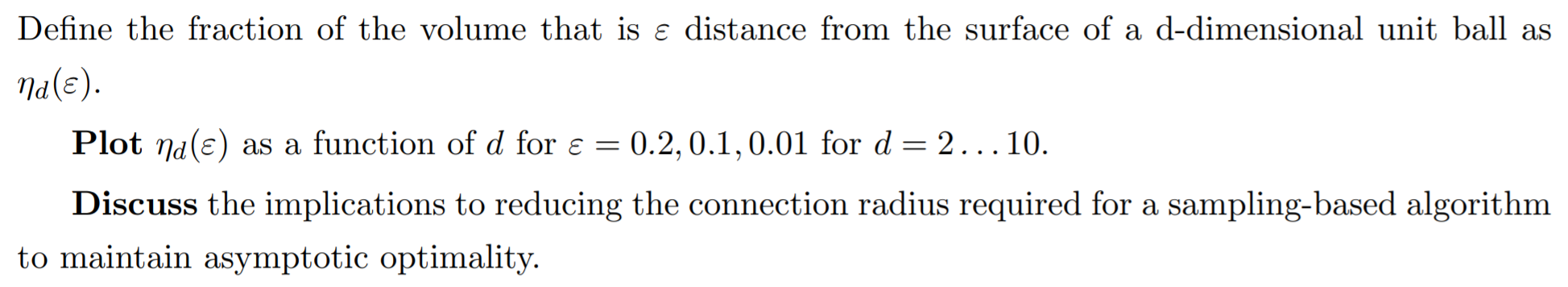
1. In a 9-dimensional unit ball, how much of the volume is located at most 0.1 units from the surface?

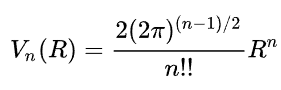
(d) Roughly 60%

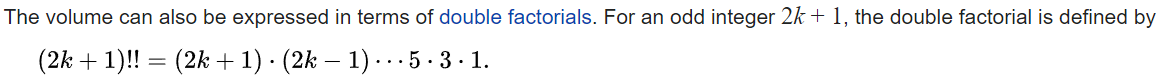
The volume is located at most 0.1 units is proportion to ,so we assume that the relative area will increase.

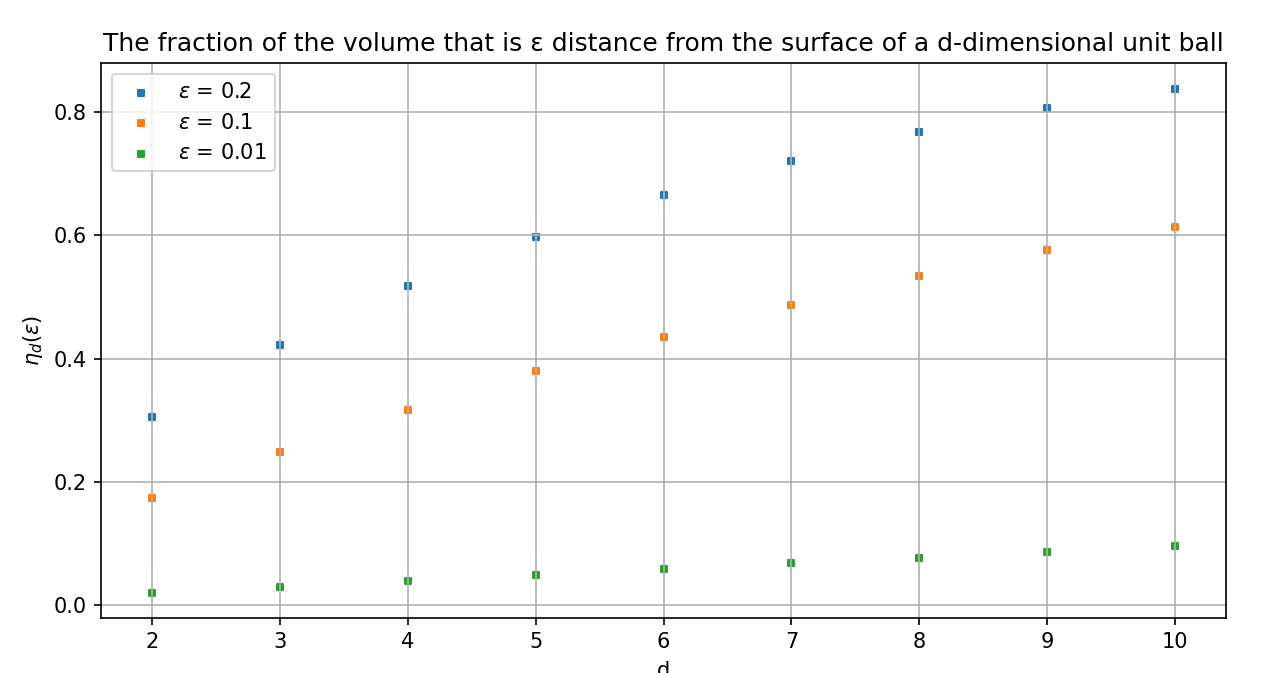
Test our intuition:

Exercise









Discuss