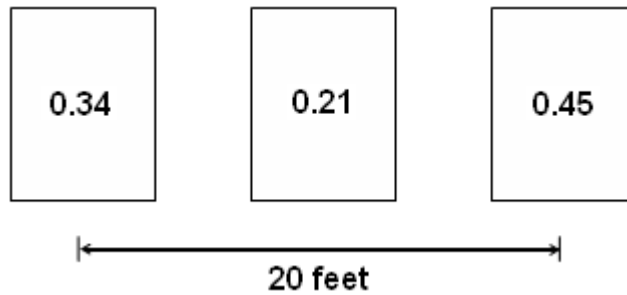


Tim is lazy, and always takes the elevator to his office. Not only that, he'd prefer to stand in front of the three elevator doors in a way that minimizes his distance from the door that will open for him.

Tim collected data over several weeks, and came up with the probabilities for which door is likely to open. The probabilities are shown on each door in the sketch below. The indicated distance is from the midpoint of door 1 to the midpoint of door 3.



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Where should Tim stand to wait for an elevator door to open?

Describe where Tim should stand for *any* probabilities. Assume the probabilities have a sum of 1.