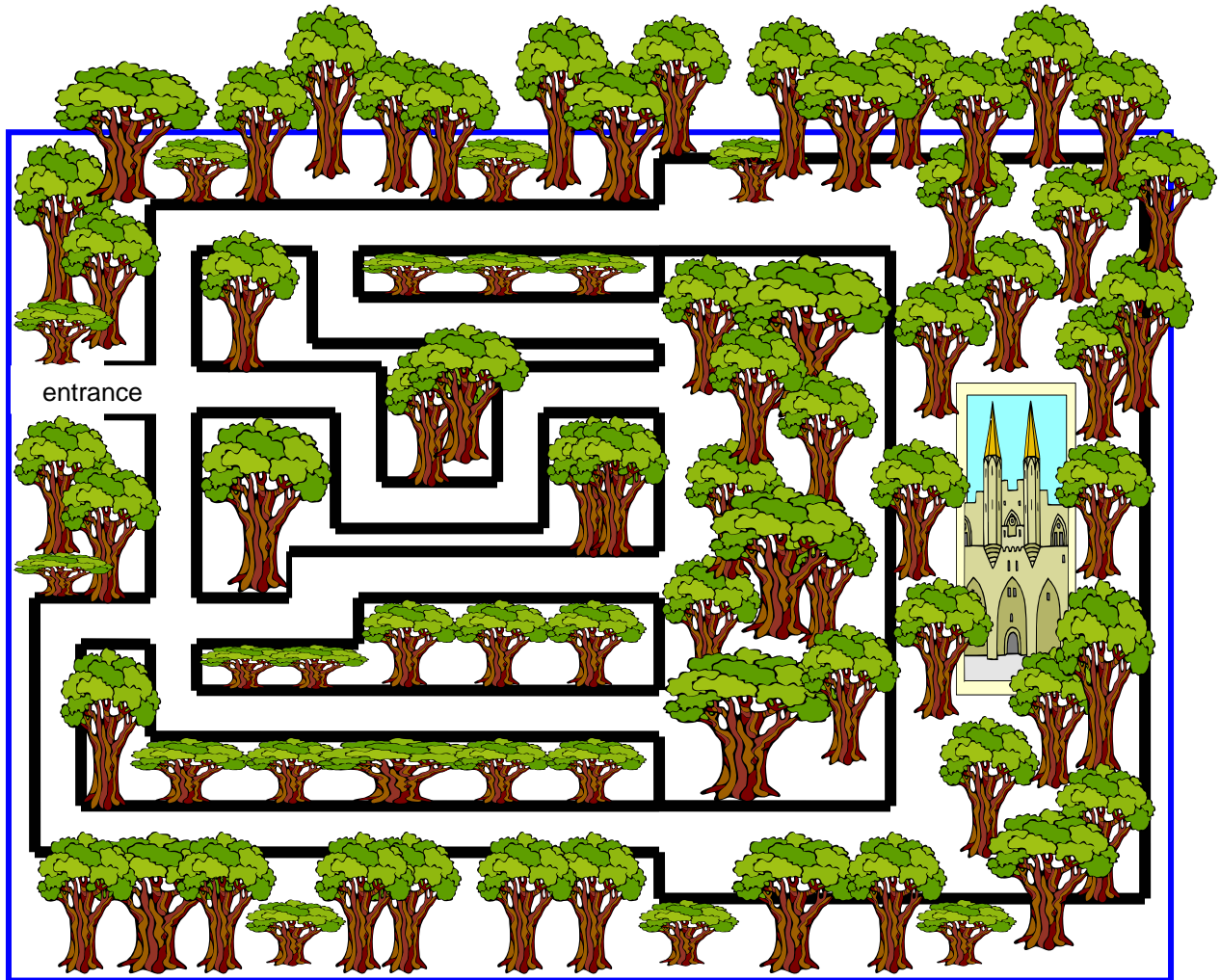


# Hidden Treasure



A myth claims that in the back section of the Enchanted Forest lies a beautiful castle filled with treasures. To reach the castle, however, there are several deterrents: (a) finding the one path that leads into the Enchanted Forest is very difficult, (b) there are many path choices in the forest but only a few lead to the back section where the castle stands, and (c) there are walls that enclose the forest and separate the main section from the back section of the forest. No one has ever been able to scale these walls to reach the castle.

At each fork in the road, the alternate paths are equally likely to be chosen. No backtracking is allowed. If you found the entrance to the forest, what is the probability that the paths you choose will lead to the back part of the forest and, hence, to the treasure.

Draw both a probability tree diagram and a probability area model to support your answer.