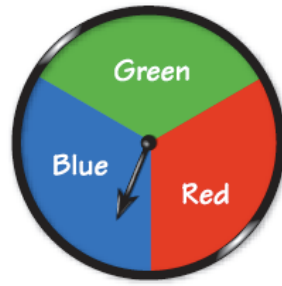**Investigation 2 - Analyzing Situations Using an Area Model**   Name: _____

2.1   Making Purple ** NOT THE SAME AS IN THE BOOK!! **

Spinner A   Spinner B

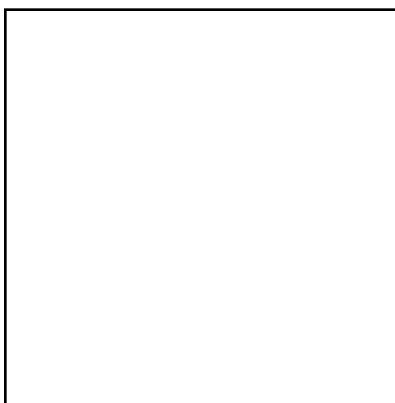A.   Use the two spinners above to create a tree diagram to show the outcomes of spinning each spinner ONCE!

Tree   Outcomes

B.   Use an area model to determine the theoretical probability that a player will make purple.

C.   How do the theoretical probabilities of the tree diagram compare to the area model?
   Which method of finding theoretical probability do you prefer?

D.   The cost to play the game is $2.The winner gets $6 for making purple. Suppose 36 people
      play the game.

   1.   How much money will the school take in from this game?

   2.   How much money do you expect the school to pay out in prizes?

   3.   How much profit do you expect the school to make from this game?

2.2   Choosing Paths ** NOT THE SAME AS IN THE BOOK!! **
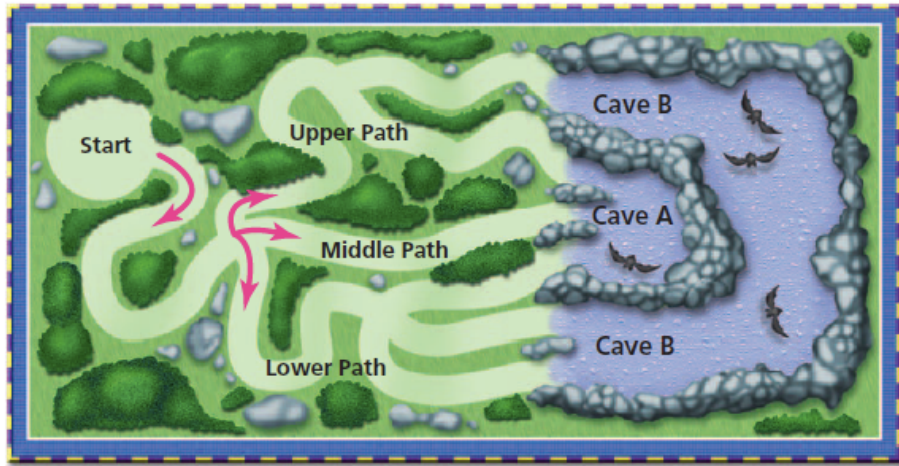
A.   Create a "TREE" version of the above game paths.

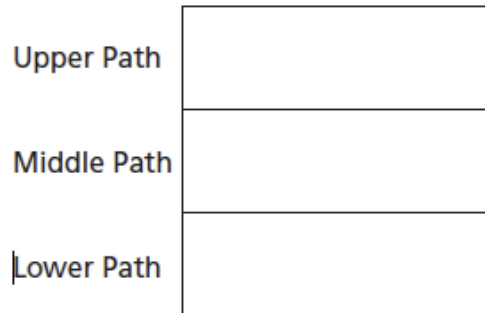Tree   Outcomes

B.   What is the theoretical probability of landing in Cave A? Of landing in Cave B?

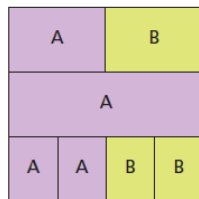   P(A) =   P(B) =

C.   Miguel draws this diagram to help him find the theoretical probabilities of ending in Cave A or in Cave B.   Complete the area model to show which cave you will land in.

Upper Path

Middle Path

Lower Path

P(A) =

P(B) =

D.   How do the theoretical probabilities of the tree diagram compare to the area model? Which method of finding theoretical probability do you prefer?

E.   Kenisha designs a new version of the game. It has a different arrangement of paths leading to Caves A and B. She makes the area model below to analyze the probabilities of ending in each cave.

A	B
A	
A	A	B	B

1.   Create a path game that fits the model.

2. Find the probability for each outcome.

P(A) =   P(B) =