

Name: _____

Date: _____

MBF 3C **Problem Set: Theoretical Probability**

Complete each of the following problems. Show all of your thinking.

1. A fisheries employee caught a number of bass, carp, and catfish and is preparing to tag them for tracking purposes. There are a total of 60 fish: 20 bass, 25 carp, and 15 catfish. A fish is randomly selected to be tagged.

Find the probability that the fish selected is a bass or a carp. Try to use two, different methods to determine this (Check the success criteria, page 2, for direction).

2. Suppose a couple would like to have three children.

a) Draw a tree diagram with three levels, each level representing the event of having one child.

b) Use your diagram to determine the theoretical probability of having two girls and one boy.

Success Criteria

Did I...

#1	Thinking, Application	Use one method that involved directly finding the probabilities of both bass and carp?	<i>Approaching</i>	<i>On Target</i>	<i>Working to Exceed</i>
#1	Thinking, Application	Use a second method involving the complementary event—probability of selecting a catfish?	<i>Approaching</i>	<i>On Target</i>	<i>Working to Exceed</i>
#2	Knowledge, Communication	Label each branch with <i>boy</i> or <i>girl</i> ? With each level, did I always end with 2 options—boy, girl?	<i>Approaching</i>	<i>On Target</i>	<i>Working to Exceed</i>
#2	Application	Count the total number of branches as total number of outcomes? Determine which branches produced 2 girls, 1 boy? Express the probability as a ratio of desired outcomes to total outcomes?	<i>Approaching</i>	<i>On Target</i>	<i>Working to Exceed</i>