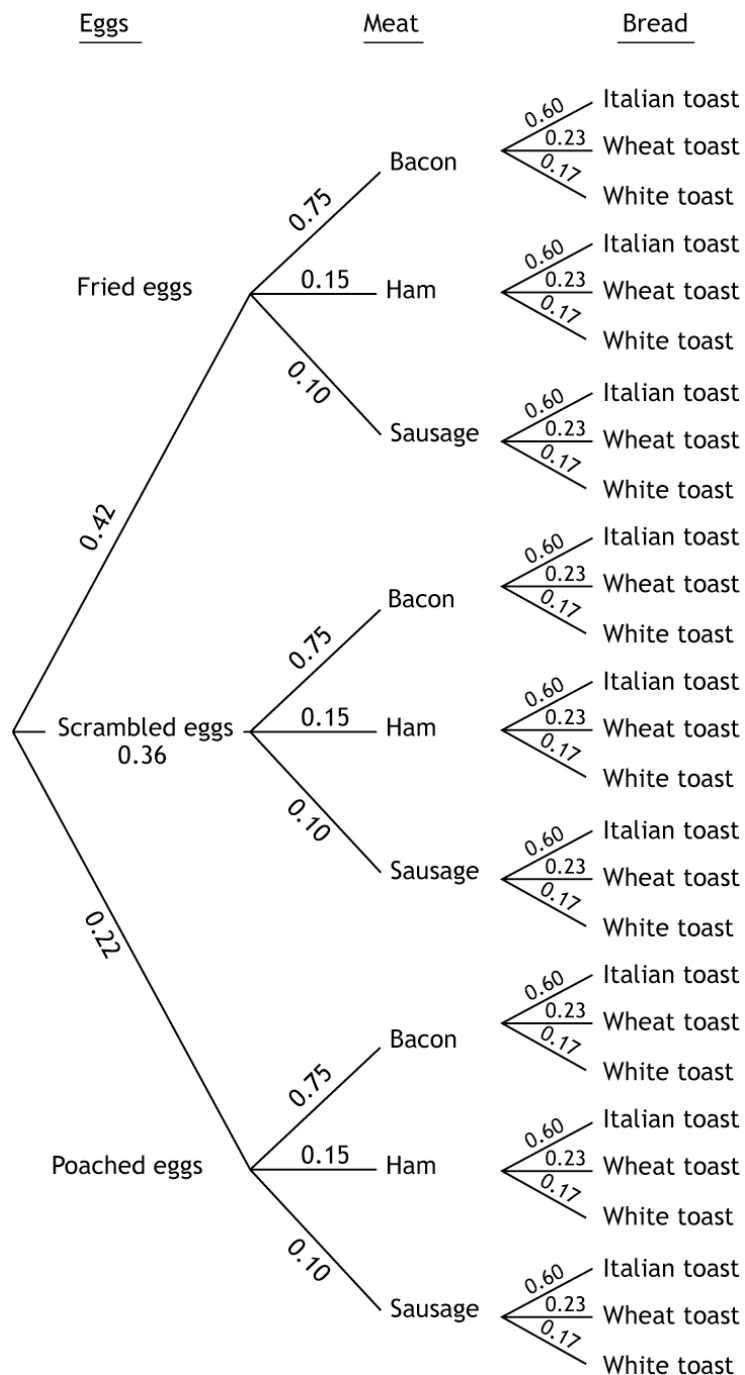


Probability: Determining Probabilities

II.A Student Activity Sheet 4: All-American Breakfast Choices

FALLON'S BISTRO



The American Breakfast
Only \$3.99

Probability: Determining Probabilities

II.A Student Activity Sheet 4: All-American Breakfast Choices

1. Create a scenario that tells the story of the tree diagram data.
2. Using the tree diagram, answer the following questions.
 - a. What do you notice about the percentages attached to the choices in the tree diagram?
 - b. If you leave the choices and change their percentages, what does this do to the sample space?
 - c. What is true about the sum of the probabilities of each outcome in the sample space?
3. How many combinations of the American Breakfast are possible? Explain your reasoning.
4. What is the probability that the next order of the American Breakfast is fried eggs, bacon, and Italian toast? Where on the tree diagram is this outcome indicated? Explain your reasoning.
5. What is the probability that the next order of the American Breakfast is *not* scrambled eggs, bacon, and Italian toast? Explain your reasoning.
6. What is the probability that the next customer to get the American Breakfast orders either Italian toast or white toast? Explain your reasoning.
7. **REFLECTION:** What would an area model look like that models the choices at Fallon's Bistro?
8. **EXTENSION:** Consider the two options below. Choose one option, and respond to its questions.

Option 1: If Fallon's Bistro adds pancakes or waffles as a choice to the American Breakfast, how does this addition affect the sample space? Where did you add the new choice? Why did you add it there? Explain your reasoning.

Option 2: What happens if hard-boiled eggs are added to the egg choices of the American Breakfast? How does this addition affect the sample space? Explain your reasoning.