AMDM - Everyday Decisions Based on Probabilities Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

II.B Student Activity Sheet 5: Probability in Games Part 2

Victoria is still playing her video game. To get to the second level, she must hit a target with her blaster and capture a power-up.

* Victoria hits the target 60% of the time.
* Victoria captures a power up 40% of the time.
* She manages to both hit the target and capture a power up 20% of the time.

1. Complete a Venn Diagram, Tree Diagram, and Area Model to model these probabilities

**Venn Diagram**

**Tree Diagram**

**Area Model**

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2. What part of the Venn Diagram represents Victoria making it to the next level? What is the probability?

3. Use the tree diagram to find the probability that Victoria will hit the target but not get the power-up. Show your calculations.

4. What is the probability that Victoria will get hit the target or get the power-up but not both? How can you use the area model to find this probability?

5. What is the probability that Victoria will accomplish neither task? Which model shows this most clearly and why?