Name _____ Date _____

Simulate Compound Events #2

A **simulation** is an experiment that represents a real-world situation. You can run a simulation with multiple trials to find experimental probabilities.

Directions Read the text below. Then answer the questions to design and run a simulation and find the experimental probability of the compound event. You will need a six-sided die to run the simulation.

Ace Books gives a coupon to each participant of their summer reading program. Each participant is given one coupon at random, and each coupon is good for $5, $10, or $15 off of a purchase. The probability of getting each type of coupon is the same. Ana and Jen want to know how likely it is that at least one of them will get a $15 coupon if they both participate in the program.

1. What is the probability of a participant getting a $15 coupon? *Write your answer as a fraction in simplest form and as a percent to the nearest hundredth.*

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2. Design a simulation using a six-sided die to determine the probability of at least one friend getting a $15 coupon if they both participate in the program.

a. Explain how you could use a six-sided die to simulate getting a $5, $10, or $15 coupon.

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b. Explain how you would run each trial in your simulation.

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3. Run the simulation you designed above using a six-sided die. Run 20 trials.

a. Record the results of each of your trials in the table below.

Trial 1:	Trial 2:	Trial 3:	Trial 4:	Trial 5:
Trial 6:	Trial 7:	Trial 8:	Trial 9:	Trial 10:
Trial 11:	Trial 12:	Trial 13:	Trial 14:	Trial 15:
Trial 16:	Trial 17:	Trial 18:	Trial 19:	Trial 20:

b. Based on your simulation, what is the probability that at least one of the friends will get a $15 coupon if they both participate in the program? *Write your answer as a fraction in simplest form and as a percent.*

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