Module 9 Test Review Version B

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1. **A coin is tossed and a card is drawn from a standard deck of cards. What is the probability of landing on tails and choosing a five?**

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2. **Mark tossed a coin 30 times. The results were 18 heads and 12 tails. Explain which is greater - theoretical or experimental probability of tossing heads?**
   a. **theoretical > experimental**
   b. **Theoretical < experimental**
   c. **Theoretical = experimental**
   d. **Theoretical + experimental**

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3. **John has a choice of burger, chicken sandwich, or pizza; with fries or onion rings; and brownie, cake, ice cream or cookie.**

   A. **If John chooses one entrée, one side, and one dessert, how many choices will he have? Show your work!**

   B. **How many choices will he have if he can then choose between soda, juice, or water to drink? Show all work for arriving at your answer!**

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4. **Without looking, Sam grabbed a handful of trail mix from the bag and found that approximately $\frac{1}{5}$ of the pieces were raisins. Suppose that there were 24 ounces of trail mix in the bag. How many ounces can Sam expect to be raisins?**

5. A six-sided number cube whose sides are numbered 1 through 6 is rolled.
   A. What is the <u>probability</u> of the cube landing on an even number?

   B. Also, what is the <u>likelihood</u> (certain, likely, equally likely, unlikely, impossible)?

6. A drawer contains 14 red socks, 5 yellow socks, and 11 blue socks. What is the probability of randomly choosing a yellow sock, replacing it, and then choosing a yellow sock again?

7. Jordan tossed a coin 50 times. The results were 22 heads and 28 tails. What is the relative frequency of tossing heads?

8. A gumball machine contains equal numbers of red, yellow, green, and blue gumballs. It randomly gives out one gumball for each pull at the machine. What is the probability of getting a red or green gumball from one pull at the machine?

9. Mrs. Sanders gets a donut on her way to school every morning. Donuts are random and can be glazed, chocolate, and cinnamon. She wants to know the probability of her donut being chocolate both mornings. Which list represents the sample space for two mornings' donuts?

   A. glazed/glazed, chocolate/chocolate, cinnamon/cinnamon
   B. glazed/chocolate, glazed/cinnamon, chocolate/cinnamon, chocolate/glazed, cinnamon/glazed, cinnamon/chocolate
   C. glazed/glazed, glazed/chocolate, glazed/cinnamon, chocolate/chocolate, chocolate/glazed, chocolate/cinnamon, cinnamon/cinnamon, cinnamon/glazed, cinnamon/chocolate
   D. glazed, chocolate, cinnamon

10. Event B is less likely to occur than event A. The probability of event A is $\frac{2}{3}$.

What is a possible probability of event B?

P(B) = _____

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11. A newborn baby is equally likely to be male or female. What is the probability that a mother's first FOUR children will all be girls?

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12. Mr. Teter rolls two fair number cubes each numbered 1 through 6. He needs to roll a sum of 9 or MORE to win a game. He rolls the number cubes one at a time. He rolls a 5 with the first number cube.

What is the probability that Mr. Teter will win the game?

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13. What is the probability you would select the letter E from tiles containing the word "EDGEWOOD"?

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14. The table shows the number of 7th graders in Mrs. Sanders' class who voted for different snack ideas. What is the relative frequency that a student chose popcorn?

Snack Ideas	Frequency
Twizzlers	32
Mint Oreos	12
Popcorn	21

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15. A spinner with 8 equal-size sections labeled as shown is spun 400 times.

A. How many times would you expect to spin a vowel?

B. What is the probability of spinning a vowel and then another vowel?

16. Mrs. Harley is a 90% free throw shooter which means that on average she makes 9 out of 10 free throw attempts. The table shows the results of 10 trials of a simulation where "Y" represents a made free throw and "N" represents a missed free throw. According to the results of the simulation, what is the experimental probability that Mrs. Harley makes both of her next 2 free throw attempts?

Trial	1	2	3	4	5	6	7	8	9	10
First Attempt	Y	N	Y	Y	Y	Y	N	Y	Y	Y
Second Attempt	Y	Y	Y	N	Y	Y	Y	Y	Y	Y

17. Mrs. Gonzalez designs and conducts a computer simulation with 20 trials and uses the data to create the relative frequency bar graph shown. The graph shows the relative frequency of the number of rolls needed in order to roll all of the different numbers on a number cube.
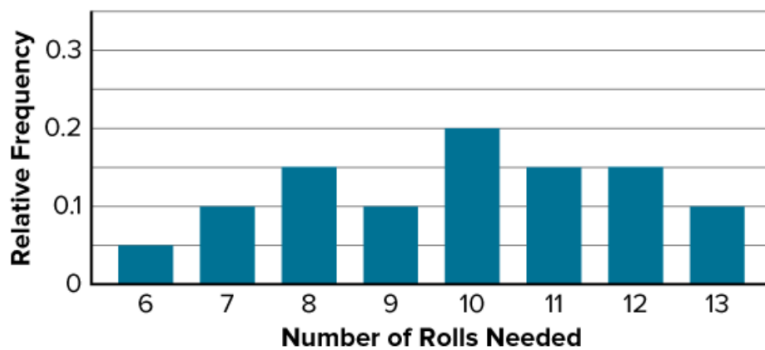
According to the results of the simulation, what is the experimental probability that 8 or fewer rolls are needed to roll all of the different numbers?

18. The table shows the amount of produce sold at Wooster's farmers market Saturday morning.

If 275 pieces of produce are expected to be sold in the afternoon, how many pumpkins would you expect to be sold?

TYPE OF PRODUCE	NUMBER SOLD
apples	50
pumpkins	60
squash	40

19. Mr. Veney designed a number generator to produce the integers 1 to 5. He then decided to run the generator 300 times. The results are shown:

If Mr. Veney runs the generator a total of 4,000 times, how many times would you expect the integer 4 to be produced?

Integer	Frequency
1	36
2	41
3	109
4	62
5	52

20. Mr. Spreng flips a coin and rolls a standard number cube.
    A. What is the probability he flips heads or rolls a 2?

    B. What is the probability he flips heads and rolls a 2?

21. Mrs. Turner groups her class into 6 groups of equal size, named Triangles, Circles, Rectangles, Ovals, Squares, and Trapezoids. Each day she selects one group at random to read aloud. The groups selected for 18 days are shown:

Which group's observed frequency of being selected is closest to its expected frequency?

Triangles	Rectangles	Triangles
Squares	Triangles	Ovals
Circles	Rectangles	Rectangles
Squares	Triangles	Rectangles
Squares	Trapezoids	Circles
Rectangles	Rectangles	Triangles