

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Class: \_\_\_\_\_

### Mid-MODULE 5 Test Review

1. Frank can wear a white uniform shirt, a navy uniform shirt, or a spirit shirt to school. The probability that he wears a white uniform shirt is  $\frac{1}{12}$  and the probability that he wears a navy uniform shirt is  $\frac{1}{2}$ . What is the probability that he wears a spirit shirt?
2. Mrs. Bueche is making a fruit salad. She bought 6 apples, 3 oranges, and 1 pineapple for her salad. What is the probability that she cuts up an apple 1<sup>st</sup> and then an orange 2<sup>nd</sup>?
3. An experiment consists of flipping a coin and rolling a number cube with the numbers 1-6 on the faces of the cube.  
Part A: List the sample space of this chance experiment.

Part B: What is the probability of getting a head on the coin and the number 3 on the number cube?

Part C: What is probability of getting a tail on the coin and an even number on the number cube?

4. Jenna's husband, Rick is concerned about his diet. On any given day, he eats 0, 1, 2, or 3 servings of fruit and vegetables. The probabilities are given in the table below.

| Number of Servings of Fruit and Vegetables | 0              | 1             | 2             | 3             |
|--------------------------------------------|----------------|---------------|---------------|---------------|
| Probability                                | $\frac{2}{16}$ | $\frac{1}{4}$ | $\frac{1}{2}$ | $\frac{1}{8}$ |

On a given day, find the probability that Rick eats:

Part A: Two servings of fruit and vegetables.

Part B: More than two servings of fruit and vegetables.

Part C: At least two servings of fruit and vegetables.

5. Matty's piano book includes 15 songs in the key of C, 10 in the key of G, and 5 in the key of F. The songs from all three keys appear in random order. Over the past month, Matty has randomly opened his piano book to a song in the key of C 80 times, the key of G 30 times, and the key of F 10 times. What are the theoretical and experimental probabilities that the next song Matty randomly picks will be in the key of G?

A. Theoretical probability =  $\frac{1}{4}$  and experimental probability =  $\frac{1}{3}$

B. Theoretical probability =  $\frac{1}{2}$  and experimental probability =  $\frac{1}{3}$

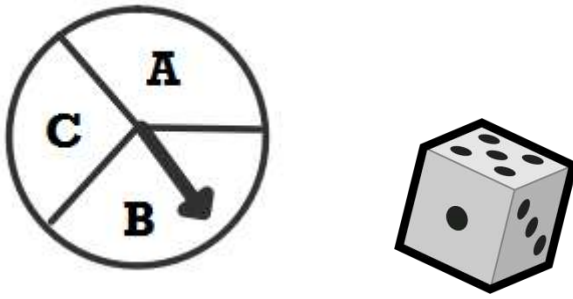
C. Theoretical probability =  $\frac{1}{3}$  and experimental probability =  $\frac{1}{2}$

D. Theoretical probability =  $\frac{1}{3}$  and experimental probability =  $\frac{1}{4}$

6. Harry looks awesome 70% of time. Use the randomly generated number table to estimate the probability that Harry will look awesome 2 out of his next 3 days. Let the digits 0, 1, 2, 3, 4, 5, and 6 represent looking awesome.

3 5 7  
1 2 3  
4 5 9  
9 0 1  
9 9 9  
8 2 6

7. Sherry spun this spinner and rolled a six sided die.



**Part A:** Show the sample space.

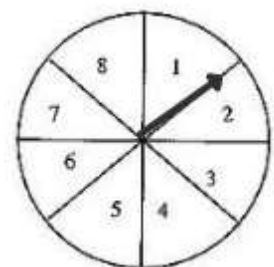
**Part B:** What is the probability that Sherry gets C on the spinner and rolls an even number?

8. Estimate the number of pelicans recaptured.

| Pelican Population         |     |
|----------------------------|-----|
| # caught, tagged, released | 28  |
| #recaptured w/tags         | 17  |
| # recaptured               | ?   |
| Estimated total population | 198 |

9. How could your dear Aunt Sally simulate the chance of you wearing a navy or white uniform shirt to school tomorrow?

10. If Alan spins a number less than five, Lindsey agrees to make chicken salad once a week for the rest of the school year for Alan. What is the probability that Alan will land on a number less than five?



11. Describe how the spinner from #10 could be used to simulate Eric's experiment on whether the substitute in his science class would be a man or a woman.

12. The math teacher rolled a die 12 times. It landed on five 7 times. What is the theoretical probability that the teacher will roll a 5 on his next try?

13. Brett is having an unlucky year for his swimming team. During his rough stretch, he is only winning 20% of the races. Use the random generated numbers below to estimate the probability that Brett will get at least 1 win out of his next 4 races. Let the numbers 8 and 9 represent wins.

|   |   |   |   |
|---|---|---|---|
| 5 | 6 | 9 | 1 |
| 4 | 3 | 0 | 2 |
| 7 | 3 | 1 | 4 |
| 9 | 5 | 9 | 6 |
| 1 | 5 | 3 | 4 |
| 7 | 6 | 3 | 2 |
| 0 | 5 | 4 | 3 |
| 8 | 1 | 7 | 9 |

14. Brent flips 3 coins. Draw a tree diagram to show the sample space for this situation. What is the probability that Brent will flip heads at least 2 times?

15. Tacocat will choose two cards from a standard deck of cards. She will not replace the first card before choosing the second card. Find the following probabilities:

P(red queen then ace)

P(two 2s)

P(king then 10)

16. Tacocat then decides she will find the same probabilities, but this time she will replace the first card before choosing the second card. Find each probability:

P(red queen then ace)

P(two 2s)

P(king then 10)

17. Determine the likelihood that each spinner will land on white. Write the spinner letter on the Probability Scale below.

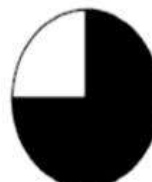
Spinner A:

Spinner A



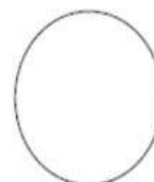
Spinner B:

Spinner B



Spinner C:

Spinner C



Spinner D:

Spinner D



Spinner E:

Spinner E

