

Name: _____

Period: _____

Math 7: MCA 4 Practice – Probability

Directions: Read each question carefully. Show your work or explain your answer for each problem.

1. Madison plans to sew one button and one ribbon on a clown costume. She has one black button, one green button, one red button and one white button in a bag. Madison also has one black ribbon, one white ribbon and one yellow ribbon in a bag.
 - a. What is the probability that Madison will select a red button from the bag?

 - b. What is the probability that Madison will select a yellow ribbon from the bag?

2. Which of the following is an impossible event?
 - a. Choosing an odd number from 1 to 10.
 - b. Getting an even number after rolling a single 6-sided die.
 - c. Choosing a white marble from a jar of 25 green marbles.
 - d. none of the above

3. A jar contains five red, three green, two purple and four yellow marbles. A marble is chosen at random from the jar. Give your answer as a fraction and a percent.
 - a. What is the probability of choosing a purple marble?

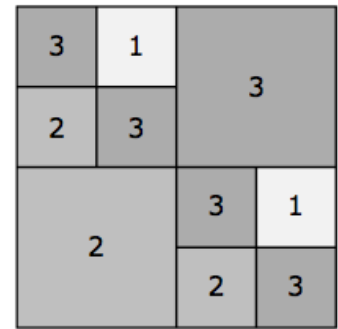
 - b. What is the probability of choosing a red or green marble?

 - c. What is the probability of not choosing a yellow marble?

4. At Pacific Middle School, 3 out of 5 students make honor roll. What is the probability that a student does not make honor roll?
- a. 65% b. 60% c. 40% d. None of the above

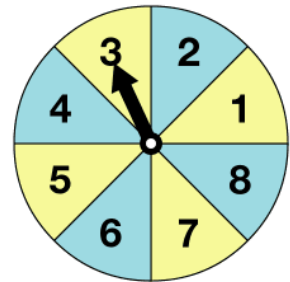
5. Leon uses squares to make a board. He randomly throws a stone onto the board. What is the probability that the stone lands on a space marked 3?

- a. $\frac{1}{10}$
 b. $\frac{1}{3}$
 c. $\frac{1}{4}$
 d. $\frac{1}{2}$



7. Use the results to find the relative frequency (experimental probability) for each. Write your answer as a fraction and a percent.

- a. How many total spins occurred?
- b. What is the relative frequency of spinning an 8?
- c. What is the relative frequency of spinning an odd number?
- d. What is the relative frequency of not spinning a 5?
- e. What is the relative frequency of spinning a number less than 4?

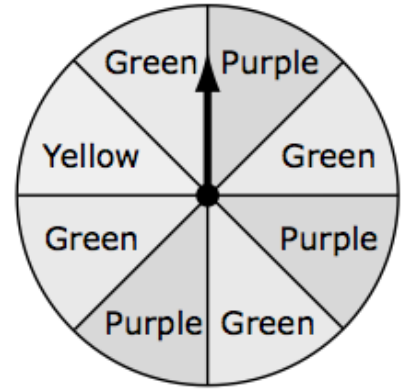


RESULTS

Number	Times
1	10
2	12
3	7
4	9
5	6
6	8
7	13
8	15

8. A spinner is divided into 8 equal sections. Lara spins the spinner 120 times. It lands on purple 30 times. How many more times does Lara need to spin the spinner and have it land on purple for the experimental probability (relative frequency) to match the theoretical probability?

- A. 10
- B. 15
- C. 24
- D. 45



HINT: Guess and Check

Theoretical Probability

$$\frac{3}{8} \text{ or } 37.5\%$$

Experiment Probability (Relative Frequency)

$$\frac{30}{120} \frac{+10}{+10} = \frac{40}{130} = 30.8\% \text{ (too low, does not match } 37.5\%)$$