Probability of Compound Events

A, B, C, Acc

1) **Tell if the events are dependent or independent. Do not solve the problems. Write D for dependent and I for independent.**

   a) **All of the letters that spell MISSISSIPPI are put into a bag. What is the probability of selecting a vowel, and then after replacing the letter, also drawing an S?**

   b) **Throwing a 4 with one die and a 6 with another.**

   c) **Picking a 7 from a deck of cards, keeping it, and picking a jack.**

   d) **Flipping a tail with a coin and rolling a 4 with a die.**

   e) **Drawing a spade and drawing a heart from the same deck without replacing the first card.**

   f) **Picking two black marbles from a bag of black and white marbles after replacing the first one.**

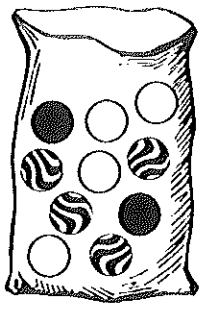
Solve the following problems:

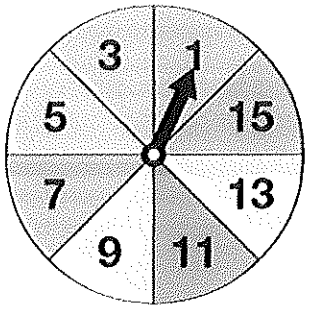
C, A, D

2) Mary has the following coins in her pocket: one silver dollar, one half-dollar, one quarter, one dime, one nickel, and one penny. If she randomly pulls one coin from her pocket, and then pulls another without replacing the first coin, what is the probability that she will pull out the quarter and dime?

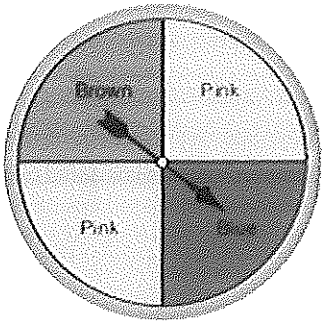
B, C

3) There is an apple, an orange, a banana, a kiwi, a mango and nothing else in a bowl. Anna takes one piece of fruit without looking and eats it, and then John takes one piece of fruit without looking and eats it. What is the probability that they took a kiwi and an apple?

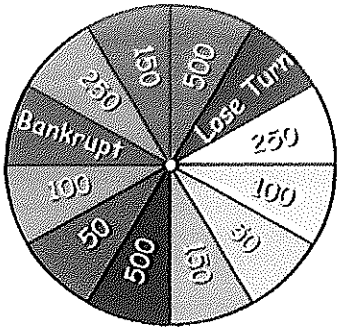




SPINNER #1



SPINNER #2



SPINNER #3

Use the figures above to answer questions 4-13. Give your answers as fractions and percents.

A,B,C 4cc

4) Phil needs to get an 11 on Spinner #1 and Pink on Spinner #2 to win the game. What is the chance that he will win?

A,B

5) Jody is playing a game, using Spinner #3. What is the chance that she will get a 250 and then a 50?

A

6) To win the Roll and Spin Game, Marty must roll a 5 on a die and spin a 50 on Spinner #3. What is the chance Marty will win?

B,C

7) To win the Roll and Spin Game, Sam must roll an odd number on spinner #1, a pink area on Spinner #2 and a 100 on Spinner #3. What is his chance of winning?

A,B

8) What is Susie's chance of getting a striped marble from the bag?

3C

9) What is Lizzie's chance of getting a striped marble from the bag, replacing it, and then getting a black marble?

A, B, C

10) What is Matthew's chance of getting a striped marble and a 100 on Spinner #3?

A, B, C, Acc

11) What is Elaine's chance of getting a white marble, throwing it away, then getting a striped marble from the bag?

A

12) What is Martha's chance of getting a white marble, not replacing it, then getting a black marble, and then spinning a pink on Spinner #2?

B, C, Acc

13) What is Ernie's chance of getting a white marble, giving it to Bert, and then getting another white marble, and an even number on Spinner #3?

Acc

14) There are 4 pink, 2 blue, and 3 green marbles in a bowl. One is randomly taken out of the bowl. Then, without replacing it, another is taken out. What is the probability that less than 2 green are taken out?

15) A drawer contains 10 blue pens, and 10 red pens. Without looking, Mr. Wells is going to take one pen from the drawer, use it, and then put it back in the drawer. Then he is going to take another pen from the drawer to use. What is the probability of Mr. Wells taking a red pen first and then taking a blue pen?

16) There are 5 slices of pepperoni pizza, 1 slice of sausage pizza, and 3 slices of cheese pizza left. Without looking, Mr. Magallanez took a slice of pizza, ate it, and then took another slice. What is the probability of Mr. M eating 2 slices of cheese pizza?

17) Tim's golf bag contains 9 white golf balls, 6 yellow golf balls, 1 orange golf ball, and 1 pink golf ball. Without looking, Tim is going to take 1 golf ball out of his bag to tee off with, and a different golf ball out to putt with. What is the probability of Tim teeing off with a white ball, not retrieving it, and then putting with an orange ball?

18) Claire has a coin with heads on one side and tails on the other side. She is going to flip it in the air three times. What is the probability of the coin landing tails up on the first flip and heads up twice on the last two flips?

15) A drawer contains 10 blue pens, and 10 red pens. Without looking, Mr. Wells is going to take one pen from the drawer, use it, and then put it back in the drawer. Then he is going to take another pen from the drawer to use. What is the probability of Mr. Wells taking a red pen first and then taking a blue pen?

$\frac{10}{20} \times \frac{10}{20} = \frac{1}{4} = 25\%$

16) There are 5 slices of pepperoni pizza, 1 slice of sausage pizza, and 3 slices of cheese pizza left. Without looking, Mr. Magallanez took a slice of pizza, ate it, and then took another slice. What is the probability of Mr. M eating 2 slices of cheese pizza?

9 slices

$\frac{3}{9} \times \frac{2}{8} = \frac{1}{12} = 8.3\%$

17) Tim's golf bag contains 9 white golf balls, 6 yellow golf balls, 1 orange golf ball, and 1 pink golf ball. Without looking, Tim is going to take 1 golf ball out of his bag to tee off with a different golf ball out to putt with. What is the probability of Tim teeing off with a white ball and putting with an orange ball?

not retrieving it — 17 balls.

$\frac{9}{17} \times \frac{1}{16} = \frac{9}{272} = 3.3\%$

18) Claire has a coin with heads on one side and tails on the other side. She is going to flip it in the air three times. What is the probability of the coin landing tails up on the first flip and heads up twice on the last two flips?

$\frac{1}{2} \times \frac{1}{2} \times \frac{1}{2} = \frac{1}{8} = 12.5\%$