

1. -/2 pointsBerrFinMath1 5.3.002.

A box contains three marbles, one red (R), one green (G), and one blue (B). A first marble is chosen, its color is recorded, and then it is replaced in the box and a second marble is chosen, and its color is recorded. Find the sample space.

- {R, G, B}
- {(R, B), (B, G), (G, R)}
- {(R, G), (R, B), (G, R), (G, B), (B, R), (B, G)}
- {(R, R), (R, G), (R, B), (G, R), (G, G), (G, B), (B, R), (B, G), (B, B)}

Find the sample space if the first marble is *not* replaced before the second is chosen.

- {(R, G), (R, B), (G, R), (G, B), (B, R), (B, G)}
- {(R, R), (R, G), (R, B), (G, R), (G, G), (G, B), (B, R), (B, G), (B, B)}
- {(R, B), (B, G), (G, R)}
- {R, G, B}

Show My Work (Optional) ?

2. -/2 pointsBerrFinMath1 5.3.004.

If a committee of 3 is to be chosen at random from a class of 13 students, what is the probability of any particular committee being selected? (Enter your answer as a fraction.)

What if the committee is to consist of a president, a vice president, and a treasurer? (Enter your answer as a fraction.)

Show My Work (Optional) ?

3. -/1 pointsBerrFinMath1 5.3.005.

In a town, 31% of the citizens contributed to the Republicans, 44% contributed to the Democrats, and 15% contributed to both. What percentage contributed to neither party?

 %

Show My Work (Optional) ?

4. -/1 pointsBerrFinMath1 5.3.006.

A college survey claimed that 61% of students took English composition, 47% took calculus, 15% took both, and 10% took neither. Show that these figures cannot be correct.

- The real percentage that took both classes is 7, not 15% as claimed by the survey.
- The real percentage that took neither class is 15, not 10% as claimed by the survey.
- The real percentage that took both classes is 10, not 15% as claimed by the survey.
- The real percentage that took neither class is 7, not 10% as claimed by the survey.

Show My Work (Optional) ?

5. -/2 pointsBerrFinMath1 5.3.007.

A box contains 4 red and 6 green marbles. You reach in and remove 3 marbles all at once.

(a) Find the probability that these 3 marbles are all red. (Enter your answer as a fraction.)

(b) Find the probability that these 3 marbles are all of the same color. (Enter your answer as a fraction.)

Show My Work (Optional) ?

6. -/1 pointsBerrFinMath1 5.3.008.

An elevator has 4 people and makes 9 stops. What is the probability that no two people get off on the same floor? (Enter your answer as a fraction.)

Show My Work (Optional) ?

7. -/1 pointsBerrFinMath1 5.3.009.

The U.S. Senate consists of 100 members, 2 from each state. A committee of 5 senators is formed. What is the probability that it contains at least one senator from your state? (Round your answer to two decimal places.)

Show My Work (Optional) ?

8. -/2 pointsBerrFinMath1 5.4.001.

Use the given values to find the following. (Enter your answers as fractions.)

$$P(A) = 0.6, P(B) = 0.4, P(A \cap B) = 0.2$$

(a) $P(A \text{ given } B)$

(b) $P(B \text{ given } A)$

Show My Work (Optional) ?

9. -/1 pointsBerrFinMath1 5.4.003.

A box contains 5 white, 2 red, and 4 black marbles. One marble is chosen at random, and it is not black. Find the probability that it is white. (Enter your answer as a fraction.)

Show My Work (Optional) ?

10. -/1 pointsBerrFinMath1 5.4.005.

You will take either a basket-weaving course or a philosophy course, depending on what your advisor decides. You estimate that the probability of getting an A in basket weaving is 0.90, while in philosophy it is 0.70. However, the chances of your advisor choosing the basket-weaving course is only 20%, while there is an 80% chance that he will put you in the philosophy course. What is the probability that you end up with an A? (Enter your answer to three decimal places.)

Show My Work (Optional) ?

11.-/1 pointsBerrFinMath1 5.4.006.

Suppose that 70% of drivers are "careful" and 30% are "reckless." Suppose further that a careful driver has a 0.1 probability of being in an accident in a given year, while for a reckless driver the probability is 0.4. What is the probability that a randomly selected driver will have an accident within a year? (Enter your answer to two decimal places.)

Show My Work (Optional) ?

12.-/3 pointsBerrFinMath1 5.4.009.

Five dice are rolled.

(a) Find the probability of getting all sixes. (Enter your answer as a fraction.)

(b) Find the probability of getting all the same outcomes. (Enter your answer as a fraction.)

(c) Find the probability of getting all different outcomes. (Enter your answer as a fraction.)

Show My Work (Optional) ?