

1. -/2 pointsBerrFinMath1 5.3.001.

Find the sample space for a committee of two chosen from Alice (A), Bill (B), Carol (C), and David (D).

- ☐ $\{(A, B), (A, C), (A, D), (B, C), (B, D), (C, D)\}$
- ☐ $\{(A, B), (C, D)\}$
- ☐ $\{(A, B), (A, D), (B, C), (C, D)\}$
- ☐ $\{A, B, C, D\}$

Find the sample space if both sexes must be represented.

- ☐ $\{(A, B), (A, C), (A, D), (B, C), (B, D), (C, D)\}$
- ☐ $\{(A, B), (A, D), (B, C), (C, D)\}$
- ☐ $\{(A, B), (C, D)\}$
- ☐ $\{A, B, C, D\}$

Need Help?

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2. -/2 pointsBerrFinMath1 5.3.003.

Two dice are rolled. E is the event that the sum is even, F is the event of rolling at least one six, and G is the event that the sum is eight. List the outcomes for the following events:

(a) $E \cap F$

- ☐ $\emptyset$
- ☐ $\{(2, 6), (4, 6), (6, 6)\}$
- ☐ $\{(6, 2), (6, 4), (6, 6), (2, 6), (4, 6)\}$
- ☐ $\{(2, 2), (4, 4), (6, 6)\}$

(b) $E^c \cap G$

- ☐ $\{(6, 2), (6, 4), (6, 6), (2, 6), (4, 6)\}$
- ☐ $\{(2, 2), (4, 4), (6, 6)\}$
- ☐ $\emptyset$
- ☐ $\{(2, 6), (4, 6), (6, 6)\}$

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3. -/2 pointsBerrFinMath1 5.3.004.

If a committee of 3 is to be chosen at random from a class of 11 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.)

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4. -/1 pointsBerrFinMath1 5.3.005.

In a town, 36% of the citizens contributed to the Republicans, 42% contributed to the Democrats, and 15% contributed to both. What percentage contributed to neither party?

%

Need Help?

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Show My Work (Optional) ?

5. -/2 pointsBerrFinMath1 5.3.007.

A box contains 6 red and 7 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.)

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Show My Work (Optional) ?

6. -/1 pointsBerrFinMath1 5.3.008.

An elevator has 6 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.)

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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 8 senators is formed. What is the probability that it contains at least one senator from your state? (Round your answer to two decimal places.)

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Show My Work (Optional) ?

8. -/2 pointsBerrFinMath1 5.4.001.

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

$$P(A) = 0.5, P(B) = 0.5, P(A \cap B) = 0.1$$

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

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

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Show My Work (Optional) ?

9. -/2 pointsBerrFinMath1 5.4.002.

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

$$P(A) = 0.4, P(B) = 0.5, P(A \cup B) = 0.7$$

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

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

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Show My Work (Optional) ?

10. -/1 pointsBerrFinMath1 5.4.003.

A box contains 4 white, 2 red, and 5 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.)

Need Help?

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Show My Work (Optional) ?

11. -/1 pointsBerrFinMath1 5.4.006.

Suppose that 60% of drivers are "careful" and 40% are "reckless." Suppose further that a careful driver has a 0.3 probability of being in an accident in a given year, while for a reckless driver the probability is 0.5. What is the probability that a randomly selected driver will have an accident within a year? (Enter your answer to two decimal places.)

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Show My Work (Optional) ?

12. -/1 pointsBerrFinMath1 5.4.008.

Two students are registered for the same class and attend independently of each other, student A 90% of the time and student B 70% of the time. The teacher remembers that on a given day at least one of them is in class. What is the probability that student A was in class that day? (Round your answer to three decimal places.)

Need Help?

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Show My Work (Optional) ?

13. -/1 pointsBerrFinMath1 5.4.007.

For the experiment of tossing a coin twice, find whether events

A: heads on the first toss

B: different results on the two tosses

are independent or dependent.

☐ independent

☐ dependent

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Show My Work (Optional) ?

Four 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.)

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Show My Work (Optional) ?

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.

- ☐ $\{(R, R), (R, G), (R, B), (G, R), (G, G), (G, B), (B, R), (B, G), (B, B)\}$
- ☐ $\{R, G, B\}$
- ☐ $\{(R, G), (R, B), (G, R), (G, B), (B, R), (B, G)\}$
- ☐ $\{(R, B), (B, G), (G, R)\}$

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

- ☐ $\{(R, R), (R, G), (R, B), (G, R), (G, G), (G, B), (B, R), (B, G), (B, B)\}$
- ☐ $\{R, G, B\}$
- ☐ $\{(R, G), (R, B), (G, R), (G, B), (B, R), (B, G)\}$
- ☐ $\{(R, B), (B, G), (G, R)\}$

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 14 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, 33% of the citizens contributed to the Republicans, 44% contributed to the Democrats, and 11% contributed to both. What percentage contributed to neither party?

 %

Show My Work (Optional) ?

4. -/1 pointsBerrFinMath1 5.3.006.

A college survey claimed that 62% of students took English composition, 47% took calculus, 15% took both, and 9% took neither. Show that these figures cannot be correct.

- ☐ The real percentage that took neither class is 6, not 9% as claimed by the survey.
- ☐ The real percentage that took both classes is 6, not 15% as claimed by the survey.
- ☐ The real percentage that took both classes is 9, not 15% as claimed by the survey.
- ☐ The real percentage that took neither class is 15, not 9% as claimed by the survey.

Show My Work (Optional) ?

5. -/2 pointsBerrFinMath1 5.3.007.

A box contains 5 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) ?

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Show My Work (Optional) ?

8. -/2 pointsBerrFinMath1 5.4.001.

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

$$P(A) = 0.7, P(B) = 0.3, P(A \cap B) = 0.2$$

(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 3 white, 2 red, and 5 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 0.80, while in philosophy it is 0.70. However, the chances of your advisor choosing the basket-weaving course is only 30%, while there is an 70% 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 80% of drivers are "careful" and 20% 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 0.5. 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.

Three 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) ?