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[Course](#) > [7The...](#) > [Evaluat...](#) > Evaluat...

Evaluation 7

Evaluation 7 Problem 1

1/1 point (graded)

Suppose you play a game in which you are dealt one card from a standard deck of 52 cards; you win **\$10** if the card is an ace, and lose **\$1** otherwise.

What is the approximate variance of this game? *Choose the best answer.*

☐ ≈ 18.76

☒ ≈ 8.59 ✓

☐ ≈ 3.46

☐ ≈ 1.07

Submit

You have used 1 of 2 attempts

i Answers are displayed within the problem

Evaluation 7 Problem 2

1/1 point (graded)



Suppose you play a game in which you roll one die, and the payoff is the number of dots showing.

What is the variance of this game? *Choose the best answer.*

☐ $\frac{3}{4}$

☐ $\frac{19}{3}$

☐ $\frac{35}{24}$

☒ $\frac{35}{12}$ ✓

Submit

You have used 1 of 2 attempts

i Answers are displayed within the problem

Evaluation 7 Problem 3

1/1 point (graded)

Now suppose that you play a game in which you roll **100** dice, and the payoff is the total number of dots showing on all the dice.

What is the variance of this game? *Choose the best answer.*

☒ $\frac{875}{3}$ ✓

☐ $\frac{175}{6}$

☐ $\frac{875}{6}$

☐ $\frac{7}{24}$

Submit

You have used 1 of 2 attempts

i Answers are displayed within the problem

NOTE: The number of attempts for Problem 3 was reset on 05/16/2018 at 13:30 UTC due to an error. Learners who attempted the problem prior to the fix being applied now have two additional chances.

Evaluation 7 Problem 4

1/1 point (graded)

Next, suppose you play a game **G** in which you roll **100** dice, and the payoff is the number of dice that come up "**6**."

What is the variance of this game? *Choose the best answer.*

☐ $\frac{3,000}{72}$

☐ $\frac{1,000}{36}$

☒ $\frac{500}{36}$ ✓

☐ $\frac{100}{36}$

Submit

You have used 1 of 2 attempts

i Answers are displayed within the problem

Evaluation 7 Problem 5

1/1 point (graded)

Again, suppose you play a game G in which you roll **100** dice, and the payoff is the number of dice that come up "6."

What is the normalized form of the game G ? *Choose the best answer.*

☐ $\frac{G - \frac{100}{6}}{\sqrt{\frac{1,000}{36}}}$

☒ $\frac{G - \frac{100}{6}}{\sqrt{\frac{500}{36}}} \quad \checkmark$

☐ $\frac{G - 50}{\sqrt{\frac{3,000}{72}}}$

☐ $\frac{G - 10}{\sqrt{\frac{500}{36}}}$

Submit

You have used 1 of 2 attempts

i Answers are displayed within the problem

Evaluation 7 Problem 6

1/1 point (graded)

Let G be the game in which you flip an unfair coin, one that comes up heads on average **60%** of the time and tails **40%** of the time. The payoff is **1** if the coin comes up heads and **0** if it is tails.

What is the normalized form of the game $G(100)$? Choose the best answer.

☐ $\frac{G(100)-100}{\sqrt{24}}$

☐ $\frac{G(100)-60}{24}$

☐ $\frac{G(100)-60}{\sqrt{240}}$

☒ $\frac{G(100)-60}{\sqrt{24}}$ ✓

Submit

You have used 1 of 2 attempts

i Answers are displayed within the problem

NOTE: To complete the following evaluation problems, you will need to use a table like the one featured in Lessons 7.4 and 7.5. The tables are offered in two forms: the exact version used in the lesson and a larger-print version.

- [Tables of the Normal Distribution \(Version Used in Lessons and Office Hours\)](#)
- [Tables of the Normal Distribution \(Larger-Print Version\)](#)

Evaluation 7 Problem 7

1/1 point (graded)

Nathan and Carl are running for the mayor of Middletown, in which **60%** of the voters favor Nathan and **40%** support Carl. A poll is conducted in which **100** residents, selected at random, are asked their preference.

What is the likelihood that the poll will show a majority in favor of Carl? *Choose the best answer.*

☐ ≈ 0.3409

☐ ≈ 0.0068

☒ ≈ 0.0207 ✓

☐ ≈ 0.1976

Submit

You have used 1 of 2 attempts

i Answers are displayed within the problem

Evaluation 7 Problem 8

1/1 point (graded)

Suppose you roll **100** dice. What are the odds that **25** or more of them come up "**6**"? *Choose the best answer.*

☐ ≈ 0.2143


☒ ≈ 0.0129 ✓

☐ ≈ 0.0357

☐ ≈ 0.0408

Submit

You have used 2 of 2 attempts

 Answers are displayed within the problem

NOTE: The number of attempts for Problem 8 was reset on 05/16/2018 at 12:30 UTC due to an error in the problem. Learners who attempted the problem prior to the fix being applied now have two additional chances.

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