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<u>Course</u> > <u>7 The</u> ... > <u>Evaluat</u>... > 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.

- $\circ$   $\approx$  18.76
- ≈ 8.59
- $\circ pprox 3.46$
- $\circ$  pprox 1.07

Submit You hav

You have used 1 of 2 attempts

• Answers are displayed within the problem

## Evaluation / Propiem 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.

 $\frac{3}{4}$ 

 $\frac{19}{3}$ 

 $\bigcirc \quad \frac{35}{24}$ 

Submit

You have used 1 of 2 attempts

**1** 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.

 $\bigcirc \quad \frac{175}{6}$ 

 $\frac{875}{6}$ 

 $\frac{7}{24}$ 

Submit

You have used 1 of 2 attempts

**1** 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  $\emph{G}$  in which you roll 100 dice, and the payoff is the number of dice that come up " $\emph{6}$ ."

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

- $\frac{3,000}{72}$ 
  - $\frac{1,000}{36}$
- 500
  36
  ✓
- $\frac{100}{36}$

Submit

You have used 1 of 2 attempts

**1** Answers are displayed within the problem

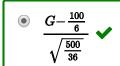
#### **Evaluation 7 Problem 5**

1/1 point (graded)

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

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









Submit

You have used 1 of 2 attempts

**1** 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.

- $\bigcirc \quad \frac{G(100){-}100}{\sqrt{24}}$
- $\bigcirc \quad \frac{G(100)-60}{24}$
- $\bigcirc \quad \frac{G(100)-60}{\sqrt{240}}$

Submit

You have used 1 of 2 attempts

• 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 wil	l show a majo	rity in favor o	f Carl? <i>Choose</i>	the best
answer.					

 $\circ$   $\approx 0.3409$ 

 $\circ$   $\approx 0.0068$ 

 $\odot$   $\approx 0.0207 \checkmark$ 

 $\circ$   $\approx 0.1976$ 

Submit

You have used 1 of 2 attempts

**1** 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.

 $\circ$   $\approx 0.2143$ 

≈ 0.0129 ✓

 $\circ$   $\approx 0.0357$ 

 $\circ$   $\approx 0.0408$ 

Submit

You have used 2 of 2 attempts

**1** 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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