Evaluation due May 9, 2021 11:32 +03

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
○ ≈ 3.46
○ ≈ 1.07
✓
Submit You have used 1 of 2 attempts
✓ Correct (1/1 point)

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.



$\bigcirc \frac{35}{24}$
$\bigcirc \frac{35}{12}$
✓
Submit You have used 1 of 2 attempts
✓ Correct (1/1 point)
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.
$\bigcirc \frac{175}{6}$
$\bigcirc \frac{875}{6}$
$\bigcirc \frac{7}{24}$
✓
Submit You have used 1 of 2 attempts
✓ Correct (1/1 point)

Evaluation 7 Problem 4

1/1 point (graded)

Next, suppose you play a game ${\it G}$ in which you roll $100~{\rm dice}$, and the payoff is the number of dice that come up "6."

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

$\frac{3,000}{72}$		
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$\bigcirc \frac{100}{36}$



Submit You have used 1 of 2 attempts

✓ Correct (1/1 point)

Evaluation 7 Problem 5

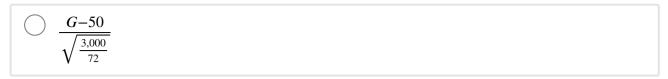
1/1 point (graded)

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.

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





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



Submit You have used 1 of 2 attempts

✓ Correct (1/1 point)

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.

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

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



✓ Correct (1/1 point)

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.

- <u>Tables of the Normal Distribution (Version Used in Lessons and Office Hours)</u>
- 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.*

$\bigcirc \approx 0.34$	409
○ ≈ 0.0	068
	207
$\bigcirc \approx 0.19$	976
	976

✓ Correct (1/1 point)

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.



✓ Correct (1/1 point)