

✓ Congratulations! You passed!

TO PASS 75% or higher

Keep Learning

grade 100%

1 / 1 point

Lesson 3.1

LATEST SUBMISSION GRADE 100%

1.	When using random variable notation, big X denotes a random variable a conditional probability distributed as a realization of a random variable the expectation of a random variable approximately equal to	1/1 point
	✓ Correct	
2.	When using random variable notation, little x denotes a random variable a conditional probability distributed as a realization of a random variable the expectation of a random variable approximately equal to	1/1 point
	✓ Correct It is a possible value the random variable can take	
3.	When using random variable notation, X ~ denotes a random variable a conditional probability distributed as a realization of a random variable the expectation of a random variable approximately equal to	1/1 point
	✓ Correct	
4.	What is the value of $f(x)=-5I_{\{x>2\}}(x)+xI_{\{x<-1\}}(x)$ when $x=3$?	1/1 point

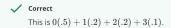
5. What is the value of $f(x) = -5I_{\{x>2\}}(x) + xI_{\{x<-1\}}(x)$ when x=0?

6.	Which of the following scenarios could we appropriately model using a Bernoulli random variable?	1 / 1 point
	Predicting the number of goals scored in a hockey match	
	Predicting the weight of a typical hockey player	
	Predicting whether your hockey team wins its next game (tie counts as a loss)	
	 Predicting the number of wins in a series of three games against a single opponent (ties count as losses) 	
	\checkmark Correct	

7. Calculate the expected value of the following random variable: X takes on values $\{0,1,2,3\}$ with corresponding probabilities $\{0.5,0.2,0.2,0.1\}$. Round your answer to one decimal place.

1/1 point

0.9



8. Which of the following scenarios could we appropriately model using a binomial random variable (with n > 1)?

1 / 1 point

- Predicting whether your hockey team wins its next game (tie counts as a loss)
- O Predicting the weight of a typical hockey player
- Predicting the number of goals scored in a hockey match
- Predicting the number of wins in a series of three games against a single opponent (ties count as losses)

✓ Correct

The binomial model assumes a fixed number of independent trials, each with the same probability of success.

9. Suppose $X \sim \operatorname{Binomial}(3,0.2)$. Calculate P(X=0). Round your answer to two decimal places.

1/1 point

0.51

$$\checkmark$$
 Correct This is $P(X=0)=\binom{3}{0}0.2^00.8^3.$

10. Suppose $X \sim \operatorname{Binomial}(3,0.2)$. Calculate $P(X \leq 2)$. Round your answer to two decimal places.

1 / 1 point

0.99

✓ Correct

This is
$$P(X = 0) + P(X = 1) + P(X = 2)$$

$$= \binom{3}{0} 0.2^0 0.8^3 + \binom{3}{1} 0.2^1 0.8^2 + \binom{3}{2} 0.2^2 0.8^1$$

$$= 1 - P(X = 3)$$