5. Exercise: PMF calculation

Exercises due Feb 28, 2020 05:29 IST *Completed*

Exercise: PMF calculation

2/2 points (graded)

As in the previous lecture clip, consider the same example of two rolls of a 4-sided die, with all 16 outcomes equally likely. As before, let X be the result of the first roll and Y be the result of the second roll. Define $W = XY$. Find the numerical values of $p_W(4)$ and $p_W(5)$.

a) $p_W(4) =$ 3/16 ✔ **Answer:** 0.1875

b) $p_W(5) =$ 0 ✔ **Answer:** 0

Solution:

a) The event $W = 4$ may occur in three different ways: $(1,4)$, $(2,2)$, $(4,1)$. Since all 16 outcomes of the two rolls are equally likely, $p_W(4) = \mathbf{P}(W = 4) = 3/16$.

b) The event $W = 5$ cannot happen, and so $p_W(5) = \mathbf{P}(W = 5) = 0$.

Submit You have used 2 of 3 attempts

Answers are displayed within the problem

Discussion

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Unclear about pw(5)
I looked at this problem as similar to the example in the video with the diagram, but got the wrong answ... 6

x times y, not x plus y
the problem states x times y, not x plus y like in the preceding discussion 1

? should we call X, Y as random variable?
According to the terminology used in the lecture, X,Y are r,v while x,y are results. 2

? Notations
Hello, I can't tell.... is the notation for the PMF a lowercase p, subscripted with an uppercase X? Sorry-- as... 2