

Errata and updates for ASM Exam P Manual (Sixth Edition) sorted by page

[11/19/2024] On page 554, replace the solution to question 4 with

The denominator of the conditional moment is $\Pr(X + Y > 3)$. Let's compute that. In order for $X + Y$ to be greater than 3, (X, Y) must equal $(2, 2)$, $(3, 1)$, or $(3, 2)$, with probabilities

$$\Pr((X, Y) = (2, 2)) = \binom{3}{2}(0.4^2)(0.6)\binom{2}{2}(0.3^2) = (0.288)(0.09) = 0.02592$$

$$\Pr((X, Y) = (3, 1)) = \binom{3}{3}(0.4^3)\binom{2}{1}(0.3)(0.7) = (0.064)(0.42) = 0.02688$$

$$\Pr((X, Y) = (3, 2)) = \binom{3}{3}(0.4^3)\binom{2}{2}(0.3^2) = (0.064)(0.09) = 0.00576$$

The denominator is $0.02592 + 0.02688 + 0.00576 = 0.05856$. The numerator sums the product of the three probabilities times the value of X in the two events:

$$2(0.02592) + 3(0.02688 + 0.00576) = 0.14976$$

The conditional expected value of X is $0.14976/0.05856 = \boxed{2.557377}$.

[11/19/2024] On page 554, in the solution to question 6, on the last line of the page, change $\mathbf{E}[(X - 200)]$ to $\mathbf{E}[(X - 200)_+]$.