

COT 3100 Fall 2020 - Homework #9 Grading Criteria

- 1) 5 pts - 1 pt for each separate probability listed for the four cases, 1 pt for adding and reducing.
- 2) 8 pts - 1 pt - setting up integral with k
 - 1 pt - integrating
 - 1 pt - solving for k
 - 1 pt - setting up integral for expectation
 - 1 pt - solving 0 to 2 integral
 - 3 pts - solving 2 to k integral
- 3) 7 pts - 1 pt for the sample space, 1 pt for recognizing that 4 must go first, 2 pts for choosing 3 slots out of 6 for one side of the tree, 2 pts for recognizing that this can occur in 2 ways, 1 pt for finishing up the problem.
- 4) 5 pts - 2 pts for all apples, 2 pts for all oranges, 1 pt for adding
- 5) 5 pts - 2 pts for writing out binomial distribution for 2 and 3, 1 pt for canceling in the equation, 2 pts for solving for p.
- 6) 5 pts - 2 pts for sample space
 - 2 pts for determining which values in sample space are multiples of the given value
 - 1 pt for dividing
- 7) 10 pts - give full credit to anyone who wrote a program and produced the correct result, but only if their code is included in the write up.

3 pts for the observation that the ordering of the first 4 games doesn't matter, once the # of Home and Away games in the first four are fixed.

4 pts for any correct calculation of a binomial probability for a fixed schedule. (One can either do the table or apply the binomial formula. If they do the latter, as you can tell from the table, you are really convoluting two binomial distributions, one for home and one for away.)

If students guessed AAAAHHH and correctly worked out the expectation for this case, give them 9 out of 10.

If students guessed one of the correct orderings and correctly worked out the expectation for that case, give them full credit.

If the students guessed an ordering but worked out the corresponding expectation incorrectly, give them partial credit depending on how close the expectation is (step wise, not numerically).
- 8) 5 pts - Grade like the last bio, as long as it's reasonable and has the details I asked for, give full credit.

Writing the whole thing -10 penalty subtracted from regular final score.

Note: No penalty if typed and one or two drawings or written sections are attached inside pdf or doc as needed.