

Homework 6

Exercises to Turn In. Due Date: Friday, March 4

1. Ross 3.11
2. (adapted from Ross 3.14) Let $A(t)$ be the age of a renewal process at time t and $Y(t)$ be the excess at time t .
 - (a) If $A(t) \geq x$, then there are no renewals in which interval?
 - (b) If $Y(t) > x$, then there are no renewals in which interval?
 - (c) Considering the above, fill in the blanks: $P(Y(t) > x) = P(A(_) \geq _)$.
 - (d) Use the above to argue that the distributions of the age and the excess are the same as $t \rightarrow \infty$ in the non-lattice case, as claimed in class. You may want to flip the inequalities...
3. Ross 3.20
4. Ross 3.21. Justify the use of Wald's Equation for each part.
5. Ross 3.31