Stat 450

Chapter 4 homework

Fall 2016

Turn in the following problems from WMS7 at the beginning of class on **Wednesday, October 5**. All problems must show full work to receive credit.

- **Section 4.2:** 4.2, 4.5, 4.6, 4.9, 5.11, 4.17, 4.18, 4.19
- **Section 4.3:** 4.21, 4.22, 4.24, 4.25, 4.34
- **Section 4.4:** 4.38, 4.42, 4.43, 4.53
- **Section 4.5:** 4.58, 4.62, 4.74, 4.80
  - Notes: 4.58, 62, 74: Use the `R` functions `pnorm()` and `qnorm()` as appropriate. Attach `R` code in appendix with your submission.
- **Section 4.6:** 4.89, 4.92, 4.96, 4.109, 4.110, 4.111, 4.112
  - 4.92 hint: Recognize $E(Y^2)$, $E(Y^3)$ and $E(Y^4)$ as kernels of a Gamma distribution. 4.96(d): use `pgamma()` or `pchisq()`. Attach `R` code in appendix with your submission.
- **Section 4.7:** 4.123, 4.124, 4.133
  - Notes: 4.123b, 4.124b, 4.133d: Use `pbeta()`. Attach `R` code in appendix with your submission.
- **Section 4.9:** 4.137, 4.140, 4.144, 4.145
- **Section 4.12:** 4.160, 4.165, 4.167, 4.173, 4.176, 4.186, 4.188, 4.190, 4.191, 4.193, 4.197, 4.200

Miscellaneous hints/points of clarification:

For all problems that refer to the exponential distribution, assume the β parameterization, so $f(y) = \frac{1}{\beta}e^{-y/\beta}$ where β is the mean amount of time per "arrival"/"failure."