Assignment 4

STA4321 - Intro. Mathematical Statistics I

Summer 2019
Due Friday 2nd August

Write a R script where you answer the following questions:

1. Consider $Y \sim Binom(n = 10, p = 0.05)$. Find the following probabilities:
   (a) $P(2 < Y < 5)$
   (b) $P(2 \leq Y \leq 5)$
   (c) $P(Y < 9)$
   (d) $P(Y = 5)$
2. Consider $Y \sim Poisson(\lambda = 0.5)$. Find the following probabilities:
   (a) $P(Y = 5)$
   (b) $P(2 \leq Y \leq 5)$
   (c) $P(Y < 9)$
3. Consider $Y \sim N(\mu = 3, \sigma^2 = 1)$. Find the following probabilities:
   (a) $P(Y = 5)$
   (b) $P(Y \leq 5)$
   (c) $P(Y > 9)$
   (d) $P(0 < Y < 6)$
4. Consider $Y \sim Gamma(\alpha = 3, \beta = 1.5)$. Find the following probabilities:
   (a) $P(Y \leq 10)$
   (b) $P(Y > 10)$
   (c) $P(Y = 9)$
   (d) $P(0 < Y < 6)$
5. What does *dnorm* function compute in R?