STAT 479
Quiz 1
Spring 2020
January 21, 2020

1. For a uniform distribution on the range of 100 to 800, calculate $S(300)$.

   Solution:

   $$S(300) = 1 - F(300) = \frac{b-x}{b-a} = \frac{800-300}{800-100} = \frac{5}{7}$$

2. Let X be distributed as a Poisson distribution with $\lambda = 8$.

Calculate $\Pr[6 \le X \le 8]$.

Solution:

$\Pr[6 \le X \le 8] = \Pr[X = 6] + \Pr[X = 7] + \Pr[X = 8]$

$$= \frac{e^{-8}8^6}{6!} + \frac{e^{-8}8^7}{7!} + \frac{e^{-8}8^8}{8!} = 0.1221382 + 0.1395865 + 0.1395865$$

0.40131