

Homework #2
Due on January 24, 2011 at noon

NOTE: The following problems are from Chapter 1 of the textbook.

1) **Problem 5.10 parts (a)-(e)**

Note: For part (b), you may need to use the following formula

$$\binom{-m}{x} = \frac{(-m)(-m-1)\cdots(-m-k)\cdots}{x!(-m-x)(-m-x-1)\cdots(-m-x-k)\cdots}$$

$$= \frac{m(m+1)\cdots(m+x-1)}{x!} \cdot (-1)^x$$

2) **Problem 5.12**

3) **Problem 5.18 part (b)**

4) **Problem 5.28**

Note: For part (b), you may want to consider the exponential distribution

5) **Problem 5.33**

Note: You may need to use the following equation

$$\Gamma\left(\frac{1}{2} + t\right) \cdot \Gamma\left(\frac{1}{2} - t\right) = \frac{\pi}{\cos(\pi \cdot t)}$$