

EE 381 Homework 6

Name, I.D. #, and Date: _____

Instructions: Attempt each exercise and show your work. Submit homework 6 to dropbox (laboratory section) on May 6. You may want to make copies of your work.

The RV Y is geometric with parameter p , $P(\{Y = y\}) = (1 - p)^{(y-1)}p$. Determine the MGF of Y .

{Hint: $\sum_{k=0}^{\infty} \alpha^k = \frac{1}{1-\alpha}$ for $0 < \alpha < 1$.}

Use the MGF you obtained in problem above for the geometric RV to determine its mean.

What is the MGF of a Bernoulli R.V.? Compare it to the MGF of a Binomial R.V.