STA 504 Homework #6

Due: Monday, October 13

Show you're your work to earn full credit. You are encouraged to work with your peers on assignments. The write-up must be your own.

Problem 1.

Consider the following gamma distribution.

$$f(y) = ye^{-y}$$

with MGF

$$m_Y(t) = \frac{1}{(1-t)^2}.$$

Find the following numerical measures of the shape of this gamma distribution using the MGF to find all required moments. [Hint: review the example used in the class before attempting the following items]

1. Express $m_Y(t)$ in terms of moments.

2. E[Y]

3. V[Y].

4. Skew[Y].

5. Kurt[Y].