

ECE 341 - Homework #5

Geometric, Pascal. Due May 28th

1) Let

- A be the number of times you roll a 6-sided die until you roll a 1
- B be the sum of rolling a six-sided die.

What is the pdf of $A + B$? (hint: use colvolution)

2) Let

- A be the the number of times you roll a 6 sided die until you roll a 1 two times
- B be the sum of two 6-sided dice

What is the pdf $A + B$? (hint: convolution again)

3) Let

- A be the number of times you roll a 6-sided die until you roll a 1 ($p = 1/6$).
- B be the number of times you roll a 6-sided die until you get a 1 or 2 ($p = 1/3$)

What is the pdf of $A+B$ using convolution?

4) Let

- A be the number of times you roll a 6-sided die until you roll a 1 ($p = 1/6$).
- B be the number of times you roll a 6-sided die until you get a 1 or 2 ($p = 1/3$)

What is the pdf of $A+B$ using z-transforms?