

name : \_\_\_\_\_

section : 109

GSI : Charles Wang

(2 pts) Circle True or False. (+1 for correct, 0 for blank, -1 for incorrect)

1. (True False) The outcome space  $\Omega$  for a Binomial distribution does not depend on  $p$ .
2. (True False) The Coin Flip distribution is an example of a Binomial distribution.

(10 pts) For the following, you must **justify** your answer to receive credit. (Showing your work counts as justification.)

3. (a) (2pts) Explain the meaning of the two parameters  $n$  and  $p$  in the definition of a Binomial distribution.

- (b) (4pts) What is the outcome space for a random variable following a binomial distribution with parameters  $n$  and  $p$ ?

- (c) (4pts) Let  $X$  be a random variable following a binomial distribution with parameters  $n = 3$  and  $p = \frac{1}{2}$ . Compute and draw the PMF for  $X$ .