

Take Home Assignment 3 - Discrete Probability Distributions

Show all workings

1. A Betting Game

You roll a die. If an odd number comes up, you lose. If you get a 6, you win \$60. If it is an even number other than 6, you get to roll again. If you get a 6 the second time, you win \$36. If not, you lose.

- (a) Construct a probability model for the amount you win at this game. Explain briefly how you obtain the probabilities associated with the different amounts of winning.
- (b) How much would you be willing to pay to play this game?

2. Chris Again!

A true-false test consists of 10 items.

- (a) If Chris does not study at all and guesses each and every item in the test, describe the probability model for the number of correct guesses.
- (b) What is the probability that Chris gets 80% or more for the test?
- (c) If it is a 20 item true-false test, would you think it is easier or more difficulty for Chris to get 80% or more? Explain *without* performing any further calculation.

Due: Friday 30th August by 11:59 pm.