

Problem Sheet 2 – submit by August 17th

Instructor: David Freeborn

I. Calculate the probabilities of each outcome in the set. Determine whether or not the set-up is biased and whether or not the trials are independent.

A. Consider a bag of 10 green M&M's and 5 red M&M's. Suppose each M&M is numbered such that the 10 green ones have numbers 1-10 on them, and the 5 red ones have 11-15 on them. Suppose you draw one at random and replace it.

* Drawing each specific number.

* Drawing a red; drawing a green.

* Drawing an M&M.

* Drawing a Skittle.

- II. Calculate the probabilities of each outcome in the set. Determine whether or not the set-up is biased and whether or not the trials are independent.
- B. Consider a standard deck of 52 cards. Suppose you draw one at random and do *not* replace it until you run out of cards.
- * Drawing any card of a specific suit (e.g. hearts).

 - * Drawing a face card.

 - * Drawing the ace of spades.

 - * Drawing a joker.