**Colorado Technical University**

 **Course:** MATH366 – Probability and Statistics

#### Unit 5 Part 10 Readings: Odds and Meteorological Probability

**Odds**

**American** odds have a negative in front of the number to show what you must bet to make

$100. Sometimes they have a positive in front of the number to show how much you

might profit if you bet $100.

**Decimal** odds show the potential return of a bet including the stake amount

**Fractional** odds often use a dash or a backslash: 5/1, 5-1, or 5-to-1. Often they put

everything in terms of “-to-1” by reducing it to the nearest whole number

**Odds in favor** # favorable outcomes:# unfavorable outcomes

**Odds against** # unfavorable outcomes:# favorable outcomes

“Odds against” are more commonly used than “odds in favor”

**To find the probabilities:**  P(win) = 1-(odds/(odds+1))

**Meteorological Probability**

How would you interpret the statement: “There is a 10% likelihood of rainfall tomorrow”

 The likelihood (probability) is based on historical data

 How many days “like” tomorrow had observed rainfall

 Obviously days “like” tomorrow can be defined in a variety of ways

 Even “observed rainfall” can be open to debate: does a trace count?

 It does NOT mean “10% of the broadcast area will receive rain”