

STA 4321/5325

Quiz 1

Fall 2010

Name: _____

All problems have exactly one correct answer.

Problem 1 Consider an experiment which consists of tossing a fair die (6 faces) 200 times. The total number of possible outcomes for the complete experiment is

- (a) 6^{200} .
- (b) 200^6 .
- (c) 200.
- (d) 6.

Problem 2 If \mathcal{S} is the sample space of a random experiment, then

- (a) $P(\mathcal{S}) = 1$.
- (b) $P(\mathcal{S}) > 1$.
- (c) $P(\mathcal{S}) = 0.5$.
- (d) $P(\mathcal{S}) < 1$.

Problem 3 If A and B are mutually exclusive events, then $P(A \cap B) = 0$. This statement is

- (a) True.
- (b) False.

Problem 4 The total number of ways of choosing r objects from n objects **without replacement** when **order is not important** is

- (a) C_r^{n+r-1} .
- (b) n^r .
- (c) C_r^n .
- (d) P_r^n .

Problem 5 Consider a random experiment which consists of tossing a fair coin 3 times. If A denotes the event that there are exactly 2 heads, then

(a) $P(A) = \frac{1}{8}$.

(b) $P(A) = \frac{1}{4}$.

(c) $P(A) = \frac{5}{8}$.

(d) $P(A) = \frac{3}{8}$.