

Quiz 6
Week of March 2, 1998

1) The distribution of the sample mean based on 4 observations has standard error

i) a quarter *ii)* half *iii)* twice *iv)* four times

as large as that of the distribution of the sample mean based on 16 observations from the same population.

2) Roulette is a game that is played as follows. A wheel with 38 slots is spun and a ball is released and allowed to come to rest at random in one of the slots (each slot is equally likely). Eighteen of the slots are winning slots, the remaining 20 are losing slots. What is the probability that you win better than 50% of the time, if you play

a) once?

b) one hundred times? Justify any approximation you might use to get your answer.