1. Of all cars on the interstate, 80% exceed the speed limit. What proportion of speeders might we see among the next 50 cars?

Check Assumptions and Conditions:
Random?

Is the sample big enough? (np and nq at least 10)

Are the cars reasonably independent? (10% condition)

Model: p=_____ q= _____ n= _____

What is the probability that the proportion of drivers speeding in a random sample of 50 would be less than 70%?

2. We don't know it, but 52% of voters plan to vote "Yes" on the upcoming school budget. We poll a random sample of 300 voters. What might the percentage of yes-voters appear to be in our poll?

Check Assumptions and Conditions:
Random?

Is the sample big enough? (np and nq at least 10)

Are the voters reasonably independent? (10% condition)

Model: p=_____ q= _____ n= _____

What is the probability that more than 60% of the voters sampled would vote "yes?"

3. Red M&M's are supposed to make up 30% of the candies sold. For a large bag of 250 M&M's, what is the sampling distribution for the proportion of red M&M's?

Check Assumptions and Conditions:
Random?

Is the sample big enough? (np and nq at least 10)

Are the M&M's reasonably independent? (10% condition)


Model: p=_____ q= _____ n= _____




What is the probability that a randomly selected large bag of M&M's would contain 40% red candies?



Between what percentages would you expect the proportion of reds to be on a randomly selected bag of 250?




4. We flip a fair coin 1000 times. What percentage of flips might land on tails?
Check Assumptions and Conditions:
Random?

Is the sample big enough? (np and nq at least 10)

Are the coin flips reasonably independent? (10% condition)


Model: p=_____ q= _____ n= _____




What is the probability that in a sample of 1000 coin flips the coin lands on heads 55%?



Between what percentages would you expect the proportion of tails to be in a sample of 1000 coin flips?