AP Statistics – Binomial Models Practice **Name: _____ Per: ____**

1. A die is weighted so that the probability of rolling a "6" is 0.48. The die is rolled 18 times.

   a) Find the probability that the die lands on a "6" exactly 11 times.

   b) Find the probability that the die lands on a "6" either 7 or 8 times.

   c) Find the probability that the die lands on a "6" no more than 5 times *(this means 5 times or fewer)*.

   d) Find the probability that the die lands on a "6" at least 4 times.

   e) In statistics, an event is considered "**UNLIKELY**" if the probability of it occurring is less than five percent. Based on your answer to part (C), is landing a "6" on this die for no more than 5 tosses considered an **UNLIKELY** event? Explain.

2. A die is weighted so that the probability of rolling a "6" is 0.42. The die is rolled 18 times.

   a) Find the probability that the die lands on a "6" exactly 11 times.

   b) Find the probability that the die lands on a "6" either 7 or 8 times.

   c) Find the probability that the die lands on a "6" no more than 5 times *(this means 5 times or fewer)*.

   d) Find the probability that the die lands on a "6" at least 4 times.

   e) In statistics, an event is considered "**UNLIKELY**" if the probability of it occurring is less than five percent. Based on your answer to part (C), is landing a "6" on this die for no more than 5 tosses considered an **UNLIKELY** event? Explain.