Name:_____

Ch 5.6 Review

Determine the new "x" value:

1. $p(x > 23)$ 2. $p(x \leq 30)$ 3. $p(x = 57)$

4. There are at most 12 left handed students in the class.

5. There are fewer than 12 left handed students in the class.

6. There are at least 12 left handed students in the class.

7. There are 12 left handed students in the class.

8. There are more than 12 left handed students in the class.

9. Ten percent of the population is left-handed. A class of 100 students is selected. Convert the binomial probability $P(x \leq 12)$ to a normal probability by using the correction for continuity and sketch a graph identifying the correct area.

10.) The failure rate in a statistics class is 20%. In a class of 30 students, find the probability that exactly five students will fail. Use the normal distribution to approximate the binomial distribution.

11.) A local motel has 100 rooms. The occupancy rate for the winter months is 60%. Find the probability that in a given winter month at least 70 rooms will be rented. Use the normal distribution to approximate the binomia distribution.

12.) A local motel has 100 rooms. The occupancy rate for the winter months is 60%. Find the probability that in a given winter month fewer than 70 rooms will be rented. Use the normal distribution to approximate the binomial distribution.

13.) A student answers all 48 questions on a multiple–choice test by guessing. Each question has four possible answers, only one of which is correct. Find the probability that the student gets exactly 15 correct answers. Use the normal distribution to approximate the binomial distribution.

14.) If the probability of a newborn child being female is 0.5, find the probability that in 100 births, 55 or more will be female. Use the normal distribution to approximate the binomial distribution.

15. An airline reports that it has been experiencing a 15% rate of no–shows on advanced reservations. Among 150 advanced reservations, find the probability that there will be fewer than 20 no–shows.

16. Find the probability that in 200 tosses of a fair six–sided die, a five will be obtained at least 40 times.

17.) Find the probability that in 200 tosses of a fair six–sided die, a five will be obtained at most 40 times.