Review WS Probability                                    Name_____

1. East Cobb Baseball has 15 teams playing in the 18 and under category.  If the top three teams go to state, how many combinations of teams could go to state?


2.  If East Cobb Baseball decides to give three scholarships to the first, second and third place teams, how many different ways can they give out scholarships?  (Continued from #1.)


3.  The math teachers are having a party!  They want to have 48 combinations of meals available.  If they have three different sandwiches, four types of chips, two side salads, how many different types of cookies must they offer?


4.  The math teachers are selecting 3 outstanding students from 20 AP Calculus BC (8 of whom are female), 15 AP Statistics (8 of whom are female), and 10 AP Calculus AB (6 of whom are female).

        a.  If the student is randomly selected, find the probability of getting a male.


        b.  If the student is randomly selected, find the probability of getting a female or an
            AP Statistics student.


5.  Kabletown needs information based on the number of televisions in each household.  In the table, x represents the number of televisions in each household.  Create a histogram of the probability model.

| X    | 0    | 1    | 2    | 3    | 4    |
|------|------|------|------|------|------|
| P(x) | 0.02 | 0.12 | 0.35 | 0.44 | 0.07 |

6.  You are playing two games of math trivia.  You believe the probability you win the first game is 0.8.  If you win the first game, the probability you also win the second game will be 0.9, and if you do not win the first game, the probability you win the second game will be 0.4.  Create a probability model (tree diagram and table) for the number of wins.

    (a)  What is the expected number of wins?


    (b)  What is the probability you win at least one game?


7.  The average time a student works on math homework is 32 minutes per night, and the standard deviation is 4 minutes.  Assume the distribution of times is normal.

    a.  Draw a sketch.


    b. What is the probability the times are above 40 minutes?


    c. What percentage of times are less than 28 minutes?


    d. What percentage of times are between 28 and 40 minutes?


    e. What studying time is at the 84th percentile?