Algebra 2 Name_____ ID: 1

Assignment – Independent/Dependent Events

Date_____ Period____

Find the probability of each event.

1) Emily and Mike each purchase one raffle ticket. If a total of six raffle tickets are sold, what is the probability that Emily wins the grand prize and Mike wins the second prize?

2) You've purchased a lottery ticket and your numbers are: 2-9-6. A lottery official randomly selects three balls from a set of seven balls that are numbered from #1 to #7. To win, your numbers must match the selected numbers in order. What is the probability of winning the lottery?

3) A shipment of eleven smartphones contains three with cracked screens. If sold in a random order, what is the probability that the first eight sold have undamaged screens?

4) There are twelve songs on your playlist. Six of them are country and six are pop. With random shuffle and no repetition, you listen to six songs. What is the probability that you listened to all country songs?

5) A gambler places a bet on a horse race. To win, she must pick the top three finishers in any order. Twelve horses of equal ability are entered in the race. Assuming the horses finish in a random order, what is the probability that the gambler will win her bet?

6) Mike and Alberto each purchase one raffle ticket. If a total of ten raffle tickets are sold and two winners will be selected, what is the probability that both Mike and Alberto win?

7) A bag contains nine real diamonds and five fake diamonds. If nine diamonds are picked from the bag at random, what is the probability that all of them are real?

8) A nature preserve has a population of eleven black bears. They have been tagged #1 through #11, so they can be observed over time. Two of them are randomly selected and captured for evaluation. One is tested for worms and one is tested for ticks. What is the probability that bear #3 is tested for worms and bear #5 is tested for ticks?

9) Julio is carrying seven pages of math homework and six pages of English homework. A gust of wind blows the pages out of his hands and he is only able to recover nine random pages. What is the probability that he recovers exactly five pages of his math homework?

10) A technician is launching fireworks near the end of a show. Of the remaining fourteen fireworks, six are blue and eight are red. If she launches eight of them in a random order, what is the probability that exactly four of them are blue ones?

11) A jar contains eight black buttons and five brown buttons. If eight buttons are picked at random, what is the probability that exactly five of them are black?

12) There are eleven songs on your playlist. Five of them are country and six are pop. With random shuffle and no repetition, you listen to five songs. What is the probability that you listened to exactly two country songs?

13) A gardener has fourteen identical-looking tulip bulbs, of which eight will produce yellow tulips and six will become pink. He randomly selects and plants eight of them and then gives the rest away. When the flowers start to bloom, what is the probability that exactly four of them are yellow?

14) A shipment of twelve smartphones contains six with cracked screens. If sold in a random order, what is the probability that exactly three of the first five sold have cracked screens?

15) A bag contains seven real diamonds and seven fake diamonds. If eight diamonds are picked from the bag at random, what is the probability that exactly four of them are real?