

Probability Math II **extra credit** (2 points towards every correct answer); you must show all work, including what you type into the calculator. Round answers to the nearest hundredth. **Due Wednesday May 18th**

1. A fruit basket contains 7 apples, 6 bananas, 5 oranges, and 6 peaches. Dana randomly chooses one piece of fruit, eats it, and chooses another piece of fruit. What is the probability that she chose a banana and then an apple?
2. Find the number of possibilities of selecting 3 desserts from 12 desserts that are displayed on a dessert cart in a restaurant.
3. A) What is $P(\text{has experience} \mid \text{has diploma})$?
B) What is $P(\text{has no diploma} \mid \text{has no experience})$?

		Has experience	
		Yes	No
Has high school diploma	Yes	54	27
		No	5
		4	

4. In how many ways can 10 people line up to get on a bus?
5. The table shows the number of male and female customers at a café on a certain day. Each customer drank either a soda or an iced tea. What is the probability that the customer drank a soda given that the customer was a female?

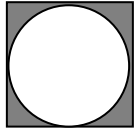
	Soda	Iced Tea
Male	22	30
Female	29	43

6. A fair number cube is tossed. Find the P (less than 4 or odd).
7. In a class of 26 students a first, second, and third prize are to be awarded. In how many different ways can this be done?
8. What is $P(\text{metal} \mid \text{recycled waste})$?

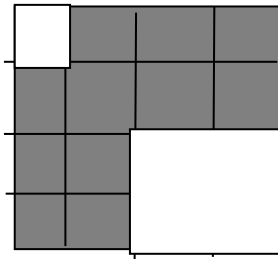
Material	Recycled	Not Recycled
Paper	45.2	37.8
Metal	7.2	13.6
Glass	3.2	10.4
Plastic	2.1	28.6

9. Find the number of possibilities of selecting a 4-person bobsled team from a group of 12 athletes?
10. In a word-building game each player picks 8 letter tiles. If Bob's letters are all different, how many 3-letter combinations can he make out of his 8 letters?
11. The top 3 runners at the cross country meet will receive trophies. If there are 25 runners in the race, in how many ways can the trophies be awarded?

12. Jack is choosing a summer internship program that could take place in 3 different months, in 4 different departments of 3 different firms. Jack is only available to complete his internship in July. How many different outcomes are there for Jack's internship?
13. In a catalog of outdoor patio plans, there are 4 types of stone, 3 types of edger's, 5 dining sets, and 6 grills. Carl plans to order one item from each category. Find the number of possible outcomes.
14. Tony is promoting his band's first concert. He contacts 12 local radio stations. If 3 of them agree to interview him on the air, what is the probability they are the top 3 stations in the area?
15. Mark wants to visit the 10 colleges he is considering attending. He can only spend the night at 4 of them. What is the probability that he spends a night at Duke, UNC, Clemson, and Georgia?
16. Tracie has 5 favorite movies. She can only take 2 of them with her on vacation. Find the number of possibilities.
17. the circle has radius of 4. Find the probability that a point chosen at random lies in the shaded region



18.



Find the probability that a point chosen at random lies in the non-shaded area. The shape is a square with side lengths of 8 inches. Each tiny square is 2 inches.

19. The population of a high school is 48% male. 55% of the males and 47% of the females go to movies. A)
find the probability that a student is female and attends movies
b) Find the probability that a student is male and does not attend movies
20. A soccer team has a 80% chance of winning when it does not snow, but only a 35% chance of winning when it snows. Suppose there is a 40% chance of snow. Find the probability that the team will win.