

1. Write the multiplication rule on the line below.
 - a) $P(A \cap B) =$ _____
 - b) In order to use the multiplication rule, event A and event B must be _____.
2. Write the formula for compound probability.
 $P(A \cup B) =$ _____
3. What is the term used to describe all of the outcomes possible? **S** _____ **S** _____.
4. The probability of any event can never be more than ____ or less than ____.
5. The sum of the probabilities for all outcomes in a sample set is always ____.
6. TRUE or FALSE: Events are the possible results for any given outcome.
7. What probability symbol can be used in place of the word "and"? _____
8. What probability symbol can be used in place of the word "or"? _____

#9-15. Super Bloom grows roses for sale throughout Southern California. The number of roses harvested in a given day is normally distributed with a mean of 650 and a standard deviation of 45.	9.
9. Find the probability that the company harvests more than 670 roses on any single day?	10.
10. The field manager of Super Bloom gets reprimanded if less than 600 roses are harvested on any single day. What is the probability that the field manager will be reprimanded on any single day?	11.
11. Find the probability that Super Bloom harvests an average of 640 or more roses in a 7-day work week.	12.
12. Find the proportion of days that Super Bloom harvests between 660 and 705 roses on any single day?	13.
13. The field workers of Super Bloom receive a bonus if the mean number of roses harvested is more than 660 roses in a 30-day month. What is the probability that field workers receive the bonus in the next month?	14.
14. If you randomly select 90 days from Super Bloom's harvest reports, what is the probability that the average number of roses harvested for this period will fall between 645 and 658 roses?	

15. Calculate the expected value of Facebook stock given the following discrete random variables and outcomes.

x = state of the economy measured in two classes - "recession" or "boom"
 y = another social media site surfaces as competition - "competition" or "no competition" Both of these variables are independent.

x	Recession	Boom
$P(x)$.15	.85

15a. Find $P(Boom \cap Competition) =$ _____

y	Competition	No Competition
$P(y)$.35	.65

15b. Find $P(Boom \cap No.Competition) =$ _____

15c. Find $P(Recession \cap Competition) =$ _____

15d. Find $P(Recession \cap No.Competition) =$ _____

15e. In calculating Facebook's expected value, consider the following outcomes:
 If there is a boom and competition surfaces, Facebook will be worth \$35/share.
 If there is a boom and no competition surfaces, Facebook will be worth \$80/share
 If there is a recession and competition surfaces, Facebook will be worth \$25/share
 If there is a recession and no competition surfaces, Facebook will be worth \$50/share

Facebook Expected Value \$ _____/share

