

PRECALC JOURNAL
PROBABILITY

1. (a) If ${}_7P_2 = 42$, this means there are _____ ways to _____ objects chosen from _____ objects.
(b) If ${}_{10}C_3 = 120$, this means there are _____ ways to _____ objects chosen from _____ objects.
2. (a) _____ events are events in which the outcome of the 1st event influences the results of a 2nd event.
(b) _____ events are events which share common items.
(c) _____ events are events which share no common items.
(d) _____ events are events in which the outcome of the 1st event does NOT influence the results of a 2nd event.
(e) When calculating the probability of mutually inclusive events, you must be careful to _____
_____.
3. The best way to calculate the probability of a situation wanting **at least one** of some object is to

_____.
4. (a) If the expected value of playing a lottery game is determined to be \$0.12 in favor of the lottery, this means _____

(b) Describe two real world applications (not related to gambling) of expected value. Describe the situation and explain why it would be important.
 1. _____

 2. _____

5. Important Rules, Formulas, Etc.
 - a) Formulas for calculating ${}_nP_r$ and ${}_nC_r$ with factorials. Write an example problem of each and show how to calculate the value completely by hand.

b) Four rules for calculating linear permutations. Give the situation and the rule.

1.

2.

3.

4.

b) Definitions of probability and odds

(c) List the conditions necessary for calculating probability by each of the following methods.

Combinations

Binomial trials

Individual probabilities

Conditional probability

c) Formula for calculating conditional probability

d) Formula for calculating expected value