

NAME: \_\_\_\_\_

Maximum Time: 15 minutes

Maximum Marks: 35 pts.

1. [1 pt.] Tick which more likely to happen.
  - a. Rolling a dice and getting a 6
  - b. Tossing a coin and getting 'heads'?
2. [2 pts.] If you want to get at least a 4 when you roll a dice then the possible successful outcomes are \_\_\_\_\_.
3. [2 pts.] The probability of getting an odd number when you roll a dice is \_\_\_\_\_.
4. [2 pts.] The probability that it is an 'ace' is pulled from a pack of fifty-two playing cards is \_\_\_\_\_.
5. [3 pts.] Two dice are rolled and the numbers are added. The probability of the total being 12 is \_\_\_\_\_.
6. [2 pts.] In the spinner the probability for landing on blue is \_\_\_\_\_.
7. [2 pts.] In the spinner the probability of not landing on red is \_\_\_\_\_.
8. [2 pts.] If  $E$  is expectation and  $X$  and  $Y$  are two random variables then  $E(X+Y) =$  \_\_\_\_\_.
9. [2 pts.] If  $E$  is expectation and  $X$  and  $Y$  are two random variables then  $E(X*Y) =$  \_\_\_\_\_.
10. [3 pts.] If  $E$  is expectation,  $a$  is constant and  $f(X)$  is a function of random variable  $X$  then  $E(a*f(X)) =$  \_\_\_\_\_.
11. [3 pts.] If  $E$  is expectation,  $a$  is constant and  $f(X)$  is a function of random variable  $X$  then  $E(a+f(X)) =$  \_\_\_\_\_.
12. [3 pts.] If  $E$  is expectation,  $a$  and  $b$  are constant and  $X$  is a random variable then  $E(a*f(X)+b) =$  \_\_\_\_\_.
13. [3 pts.] If  $E$  is expectation,  $a_i$  are constants and  $X$  is a random variable then  $E(\sum a_i X_i) =$  \_\_\_\_\_.
14. [5 pts.] Demand of products per day for three days are 21, 19, 22 units and their respective probabilities are 0.29, 0.40, 0.35. Profit per unit is \$0.50 then expected profits for three days are \_\_\_\_\_.

