

**East Los Angeles College**  
**Department of Mathematics**  
**Math 227**  
**Test 3 Study Guide**

**The Two Red Kings Game (Approximate to the nearest hundredths)**

1. Las Vegas has a new gambling game called the two Red Kings. In order to win this game, all you need to do is select two different red Kings from a standard deck. If it cost's \$ 10 for a chance to win \$500, compute the expected value for this game.

**Life Insurance (Approximate to the nearest hundredths)**

2. A \$ 25,000 policy for a 32-year old female costs \$ 300 per year for the premium. If the chance a 32-year old female lives the year is 0.97, what is the expected value for this policy?

**6 Children (Approximate to the nearest Thousandths)**

A couple plans on having 6-children. What is the probability the couple has:

3. No boys?
4. One boy?
5. At least one boy?
6. No more than two boys?
7. More than two boys?
8. What is the expected number of boys?

**Fax Machine (Approximate to the nearest Thousandths)**

A machine uses 8 special components in copying a document. If probability that each component functions is 0.95 and these components function independently of one another. What is the probability that:

9. No components function?
10. One component functions?
11. Two components function?
12. Less than three components function?
13. More than five components function?
14. Between one and four components function?
15. What is the expected number of components that will function?

**Murders in Friedman City (Approximate to the nearest Thousandths)**

Friedman City experiences a mean of 5.8 murders per week (7 days). In the next week, what is the probability Friedman City will have:

16. No murders?
17. One murder?
18. Two murders?
19. At least two murders?
20. More than one murder?

21. No more than four murders?
22. Between one and four murders?
23. In the next month (5-days) what is the probability Friedman City experiences more than two murders?
24. In the next month (10-days) what is the probability Friedman City experiences more than two murders?

**Oahu Temperature (Approximate to the nearest Hundredths)**

The temperature in Oahu is Normally Distributed with a mean of 77.7 degrees Fahrenheit with a standard deviation of 8.8 degrees Fahrenheit. What percent of days are:

25. More than 80 degrees Fahrenheit?
26. Less than 70 degrees Fahrenheit?
27. At least 65 degrees Fahrenheit?
28. No more than 90 degrees Fahrenheit?
29. Between 80 and 90 degrees Fahrenheit?
30. Between 65 and 80 degrees Fahrenheit?

**(Approximate to the nearest Tenths)**

31. What temperature represents the top 5% of temperatures?
32. What temperature represents the bottom 1% of temperatures?
33. What temperature represents the 3<sup>rd</sup> Quartile?
34. What temperature represents the 4<sup>th</sup> Decile?
35. What temperature represents the 90<sup>th</sup> percentile?

Answer Sheet

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