Problem Statement 1:

1. You survey households in your area to find the average rent they are paying. Find the standard deviation from the following data:
$1550, $1700, $900, $850, $1000, $950.

$S^2 = \Sigma(x-\sigma)^2 / n$

x= 1550, 1700, 900, 850, 1000, 950

σ = (1550 + 1700+ 900+ 850+1000+950)/6

= 1158.33

x	σ	x-σ	$(x-\sigma)^2$
1550	1158.33	1550 - 1158.33 = 391.67	783.34
1700	1158.33	1700 -1158.33 = 541. 67	1083.34
900	1158.33	900 -1158.33 = -258.33	516.66
850	1158.33	850 -1158.33 = -308.33	616.66
1000	1158.33	1000 – 1158.33 = -158.33	316.66
950	1158.33	950 – 1158.33 = -208.33	416.66

S^2 = (783.34+1083.34+ 516.66+ 616.66+316.66+ 416.66)/6

= 622.22

S = 24.94

2. A die marked A to E is rolled 50 times. Find the probability of getting a “D” exactly 5 times.

N= 50

k=5

Probability of getting a D = 1/5

Probability of not getting a D = 1- 1/5 = 4/5

3. Two balls are drawn at random in succession without replacement from an urn containing 4 red balls and 6 black balls.
Find the probabilities of all the possible outcomes.

Total outcomes = 6+4 = 10

Probability of getting a reb ball = 4/10

Probability of getting a black ball = 6/10