**Homework 1**

1. **d**
2. **a**
3. **Q = {B,B} ; R = {B,W}**

**P(2B|1B) = P(2B,1B)/P(1B)**

**P(2B,1B) = P(Q)P(2B,1B) + P(R) P (2B,1B) = 0.5 (1) + 0.5 (0) = 0.5**

**P(1B) = P(1BQ) + P(1BR) = 1(0.5) + 0.5(0.5) = 0.75**

**Hence, P(B|B) = 0.5/0.75 = 2/3**

**4. b.**

**(1-0.55)^10**

1. **c. 1 🡪 1/(3.405E-4)**

**x 🡪 1000**

**x = 3.405E-4 \* 1000 = 0.3405 ~ 0.289**

1. **e. 24**
2. **b.**
3. **c.**
4. **b.**
5. **b.**