EE381 homework #1 solution

1) Answers:
    a) Probability of king on first draw and no king on second draw
    b) No king on first draw or no king on second draw or both (no kings on first and second draws).
    c) Probability of either king on first draw and king on second draw or no king on second draw and king on third draw.

2) For the biased coin, we have:
    $P(H)=2P(T)$
    Because $P(H)+P(T)=1$, it follows that $2P(T)+P(T)=3P(T)=1$
    So $P(T)=1/3$ and $P(H)=2/3$

3) $E=\{1,3,5\}$
    $P(1)=P(2)=P(4)=P(5)=P(6)=1/7$; $P(3)=2/7$
    $P(E)=P(1)+P(3)+P(5)=1/7+2/7+1/7=4/7$

4) Answers:
    a) 1/26
    b) ¾
    c) 9/13

5) Answers:
    a) 4/15
    b) 3/5
    c) 2/3