1- C (250,2) = 31125

2- C (5,3) =10

3- 2^3 =8

4- C (30,3) =4060

5- C (6,3) =20

6- The probability of not rolling a 7 on any given roll is (30/36)^3 then the probability of rolling at least one 7 in there rolls of a pair of fair dice is 1- (30/36)^3 = 0.4213

7- (4*4) + C (4,3) = 16 + 4 = 20

8- a) C (2,1) * C (2,1) * C (2,1) * C (2,1) * C (2,1) * C (20,9) = 1343680

b) C (2,2) * C (2,2) * C (2,2) * C (2,2) * C (2,2) * C (20,4) = 4845