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MATH 080  
DUE 27 July 2020

Homework #3

67. First of all, there can only be a 100% chance. If they wanted to get the chance of rain over the weekend they need to get the mean percent chance of rain on Saturday and Sunday. It would be 65% chance of rain for the weekend.

82.

- A.
- B.  $p(\text{red}) = 18/36$
- C.  $p(\text{-1st 12-}) = 12/36$
- D.  $p(\text{even \#}) = 18/36$
- E. Yes because it is the opposite and has the same odds. 50/50
- F. A black even and a red odd
- G. Yea because you could have  $p(\text{even}) * 18/36$  and  $p(\text{-1st 12}) * 12/36$

84.

- A.  $18/36$   $p(\text{color}) = 50\%$
- B.  $12/36$   $p(\text{dozen group}) = 33\%$
- C.  $18/36$   $p(\text{range 1-18}) = 50\%$
- D.  $18/36$   $p(\text{range 19-36}) = 50\%$
- E.  $12/36$   $p(\text{range}) = 33\%$
- F.  $18/36$   $p(\text{even or odds}) = 50\%$

85.

- A. G1, G2, G3, G4, G5, Y1, Y2, Y3
- B.  $p(\text{green}) = \frac{5}{8}$
- C.  $p(\text{green even}) = \frac{2}{8}$
- D.  $p(\text{green and even}) = \frac{6}{8}$
- E.  $p(\text{green or even}) = \frac{5}{8}$  and  $\frac{3}{8}$
- F. No, green and even are not mutually exclusive because they **CAN** occur at the same time.

Green and Yellow would be an example of mutually exclusive.

86.

- A. 1(1,2,3,4,5,6) 2(1,2,3,4,5,6) 3(1,2,3,4,5,6) 4(1,2,3,4,5,6) 5(1,2,3,4,5,6) 6(1,2,3,4,5,6)
- B.  $P(A) = 6/36$

- C.  $P(B) = 21/36$
- D.  $P(A|B)$  represents ruling the two dice to have a total of 7 max.  $P(A|B) = 7/21$
- E. No, because A and B can happen at the same time.  $P(A \text{ and } B) = 7/36$ .
- F. Yes, they are. B and A can occur independently, knowing that event A can happen doesn't change the probability that even B can happen.  
 $P(A|B) = 7/21$   
 $P(A) = 12/36$