Find P(F) / P(s)

P(E) / P(S)

Rolling a 3 happens twice as often as the other numbers.

P(1) = P(2) = 2P(3) = (P4) = P(5) = P(6)

P1 + P2 + P3 + P4 + P5 + P6 = 1

X + x + 2x + x + x + x = 1

7x = 1

x = 1/7

P1 = P2 = P4 = P5 = P6 = 1/7

P3 = 2/7.

P(odd) = P1 + P3 + P5 = 4/7

X is sum numbers that appear when a pair of dice is rolled. What are the values of x for all possible outcomes where I roll two dice once? Diagonals are the same

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | 1 | 2 | 3 | 4 | 5 | 6 |
| 1 | 11 | 21 | 31 | 41 | 51 | 61 |
| 2 | 12 | 22 | 32 | 42 | 52 | 62 |
| 3 | 13 | 23 | 33 | 43 | 53 | 63 |
| 4 | 14 | 24 | 34 | 44 | 54 | 64 |
| 5 | 15 | 25 | 35 | 45 | 55 | 65 |
| 6 | 16 | 26 | 36 | 46 | 56 | 66 |

Total sums: 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12

Look at minimum sum, and maximum sum, and list every single one.

Bayes Theorem:

P(F | E) = P(E|F)P(F) / P(E|F)P(F) + P(E| NOT F)P( NOT F)

P(E | F ) = P(E∩F) / P(F)

P(F|E) = P(F∩E) / P(E)

P(F|E) = P(E|F)P(F) / P(E)

Box 1:

2 green balls, 7 red balls.

Box 2:

4 green balls, 3 red balls.

E: Bob chose a red ball. (E not = Bob chose a green ball)

F: Bob chose from Box 1. (E not = Bob chose from Box 2)

P(F|E) = P(F∩E) / P(E) = 7/9

P(E | NOT F) = 3/7

P(F) = P(Not F ) = ½

P(E|F) = P(E∩F) / P(f)

= (7/9) (1/2) = 7/18

P(Not E) = 6 / 16 - Green ball

P(E) = 10 / 16 - Red ball