Week 4 Questions

tprasad@tcd.ie 16326505

February 14, 2019

Question 1

(a) {(1,1)}

(b) {(1,1),(2,1),(1,2)}

(c) {(1,3),(3,1),(2,2)}

(d)

$$\frac{3}{6^2} = 0.08333$$

Question 2

(a) -3,-1,1,3

(b)

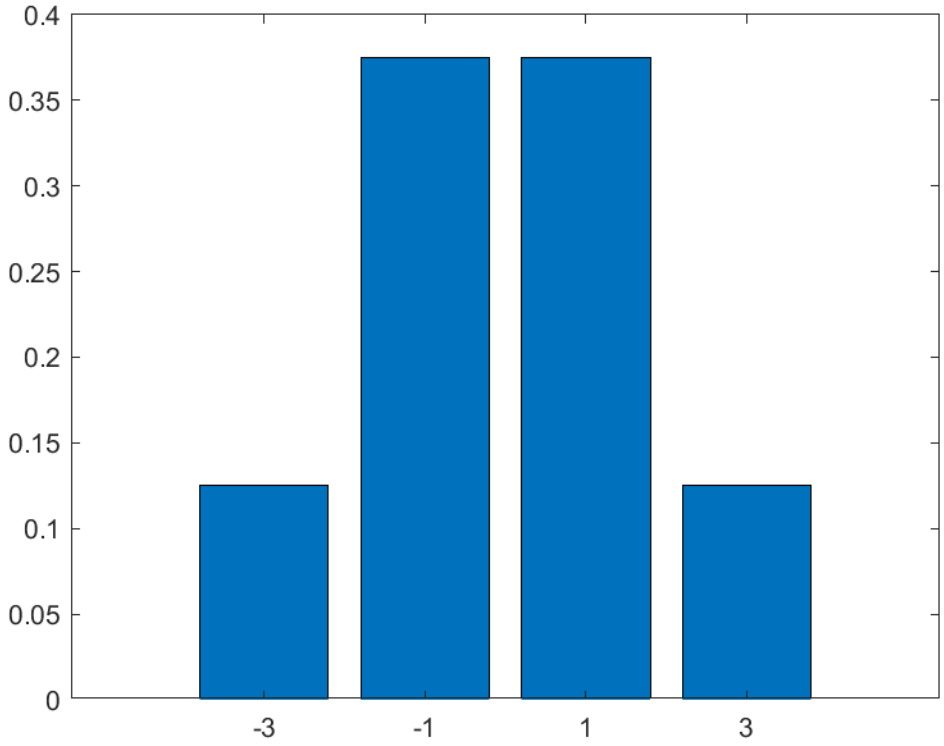
$$\{(T,T,T)\} = \frac{1}{2^3} = 0.125$$

(c)

$$\{(H,T,T),(T,H,T),(T,T,H)\} = 0.375$$

(d) Probability of P(X=1) = P(X=-1) and same for P(X=3) and P(X=-3)

PMF = plotting out these values =



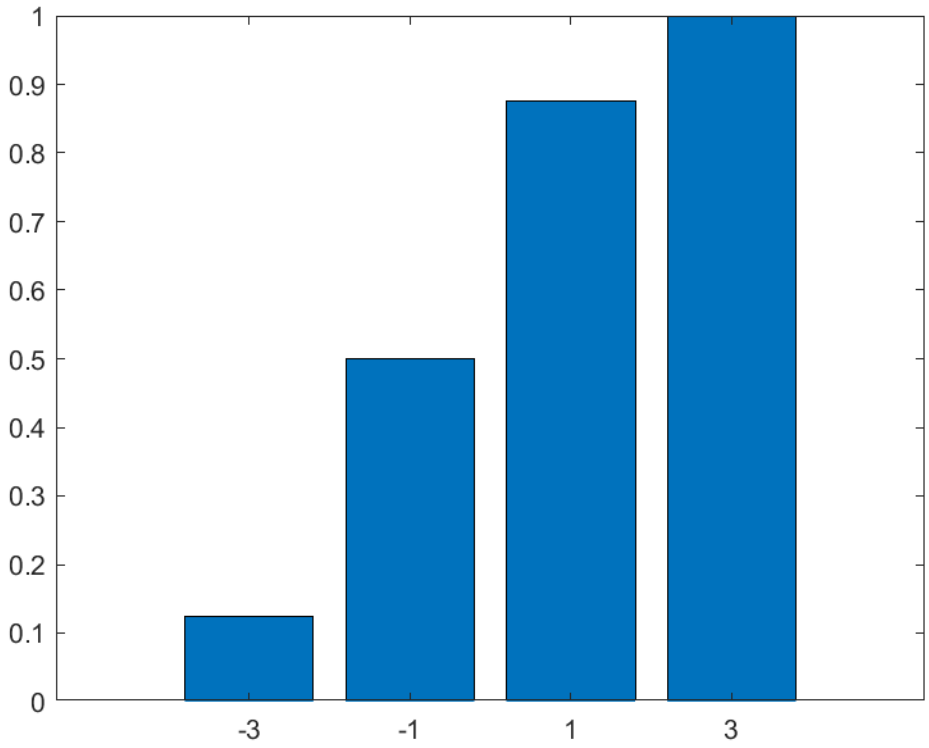
CDF =

$$-3 = .125$$

$$-1 = .375 + .125 = .5$$

$$1 = .875$$

$$3 = 1$$



Question 3

(a) 1 since all numbers on the dice are >= 1

(b) $\left(\frac{5}{6}\right)^4 = 0.4823$ since exactly 1 possibility in 6 can't be landed on all 4 times

(c) 1 for all