1. 𝑋 is a discrete random variable with the following outcomes and distributions.

𝑥 0 1 3 4 5

𝑝(𝑋=𝑥) 0.1 0.2 0.2 0.4 0.1

Answer to the following parts. Show your work.

1. 𝑝(𝑥≤4)

0.1+0.2+0.2+0.4 = 0.9

b) 𝑝(1≤𝑥<3)

0.2+0.2 = 0.4

c) Mean of 𝑥

0\*0.1 +1\*0.2+3\*0.2+4\*0.4 + 5\*0.1 = 2.9

d) Sketch the probability mass function (pmf) 𝑓(𝑥).

e) Sketch the cumulative distribution function (cdf) 𝐹(𝑥).