

Question 5. [6 points]

a. Check whether the following can be defined as probability mass function, and explain why?

i. $f(x) = \frac{x}{12}$ for $x = 0, 1, 2, 3, 4$

ii. $f(x) = \frac{3x+1}{50}$ for $x = 0, 1, 2, 3, 4, 5$

b. Given that $f(x) = \frac{k}{2^x}$ is a probability mass function for a random variable that can take on the values $x = 0, 1, 2, 3$, and 4. Determine the value of k