

1. What is the expected value of the following random variable

x	1	2	3	4	5	6
$P(X = x)$	0.25	0.4	0.15	0.05	0.1	0.05

2. Provide the R code to justify the 68, 95, 99.7 rule.
3. Suppose adult heights are distributed normally with a mean of 71.5 inches and a standard deviation of 3.2 inches.
- What is the probability we randomly select an adult who is between 64 and 78 inches tall?
 - What is the probability a randomly selected adult is less than 69 inches tall?
 - What is the probability a randomly selected adult is greater than 68.34 inches tall?
 - Below what value are the shortest 7.75% of adults?
4. Assume $X \sim U(a, b)$ is a continuous random variable. Calculate the expected value of the random variable X . Provide your work. Recall, for the uniform (continuous) random variable,

$$f(x) = \frac{1}{b - a}.$$