## Question 1:

1. Given that CDF(5.0) = 0.3, the probability that X < 5.0 is about **0.3** because the CDF(x) is the probability that the random variable X <= x
2. P(X = 10.0) = 0 because the probability for a point value is 0.
3. Given that P(X <= 5.0) = 0.3, and P(X <= 12.0) = 0.8,

P(5.0 < X < 12.0) = P(X <= 12.0) - P(X <= 5.0)

= 0.8 – 0.3 = **0.5**

1. b. CDF(16.0) > 0.7 because CDF(12.0) = 8 and because 16 > 12, CDF(16) must be > CDF(12)
2. c. can’t be determined because I do not know the shape of the PDF. It is possible for CDF(16.0) to be above 0.9 or below 0.9

## Question 2:

1. Since the probability of getting a gold card is < 0.5 and there are only two options, the probability of getting a silver card is 1 – 0.5 = **0.5**.
2. Geometric? Multiple trials of One card or another? – Not Done