Statistics MCQs – Discrete Distributions Part 1

1. A new car salesperson knows that he sells cars to one in every twenty customers who enter the showroom. What is the probability that he will sell a new car to exactly two of the next three customers?

a. 0.007

b. 0.021

c. 0.003

d. 0.010

e. 0.001

Answer: A

2. A new car salesperson knows that he sells cars to one in every twenty customers who enter the showroom. What is the probability that he will sell a new car to exactly two of the next five customers?

a. 0.007

b. 0.021

c. 0.003

d. 0.010

e. 0.001

Answer: B

3. A new car salesperson knows that he sells cars to one in every thirty customers who enter the showroom. What is the probability that he will sell a new car to exactly two of the next three customers?

a. 0.007

b. 0.021

c. 0.003

d. 0.010

e. 0.001

Answer: C

4. A new car salesperson knows that he sells cars to one in every thirty customers who enter the showroom. What is the probability that he will sell a new car to exactly two of the next five customers?

a. 0.007

b. 0.021

c. 0.003

d. 0.010

e. 0.001

Answer: D

5. A new car salesperson knows that he sells cars to one in every twenty customers who enter the showroom. What is the probability that he will sell a new car to exactly three of the next five customers?

a. 0.007

b. 0.021

c. 0.003

d. 0.010

e. 0.001

Answer: E

6. Approximately 84% of persons living in Cape Town who are aged 70 to 84 live in elderly care facilities. If four persons are randomly selected from this population, what is the probability that exactly two of the four live in elderly care facilities?

a. 0.108

b. 0.244

c. 0.007

d. 0.319

e. 0.379

Answer: A

7. Approximately 72% of persons living in Cape Town who are aged 70 to 84 live in elderly care facilities. If four persons are randomly selected from this population, what is the probability that exactly two of the four live in elderly care facilities?

a. 0.108

b. 0.244

c. 0.007

d. 0.319

e. 0.379

Answer: B

8. Approximately 84% of persons living in Cape Town who are aged 70 to 84 live in elderly care facilities. If six persons are randomly selected from this population, what is the probability that exactly two of the six live in elderly care facilities?

a. 0.108

b. 0.244

c. 0.007

d. 0.319

e. 0.379

Answer: C

9. Approximately 64% of persons living in Cape Town who are aged 70 to 84 live in elderly care facilities. If four persons are randomly selected from this population, what is the probability that exactly two of the four live in elderly care facilities?

a. 0.108

b. 0.244

c. 0.007

d. 0.319

e. 0.379

Answer: D

10. Approximately 84% of persons living in Cape Town who are aged 70 to 84 live in elderly care facilities. If four persons are randomly selected from this population, what is the probability that exactly three of the four live in elderly care facilities?

a. 0.108

b. 0.244

c. 0.007

d. 0.319

e. 0.379

Answer: E

11. The listed occupations of stockholders of a national computer company included 9% who were housewives. If six of these stockholders are randomly selected, what is the probability that none are housewives?

a. 0.568

b. 0.011

c. 0.083

d. 0.282

e. 0.073

Answer: A

12. The listed occupations of stockholders of a national computer company included 9% who were housewives. If six of these stockholders are randomly selected, what is the probability that exactly three are housewives?

a. 0.568

b. 0.011

c. 0.083

d. 0.282

e. 0.073

Answer: B

13. The listed occupations of stockholders of a national computer company included 9% who were housewives. If six of these stockholders are randomly selected, what is the probability that exactly two are housewives?

a. 0.568

b. 0.011

c. 0.083

d. 0.282

e. 0.073

Answer: C

14. The listed occupations of stockholders of a national computer company included 19% who were housewives. If six of these stockholders are randomly selected, what is the probability that none are housewives?

a. 0.568

b. 0.011

c. 0.083

d. 0.282

e. 0.073

Answer: D

15. The listed occupations of stockholders of a national computer company included 19% who were housewives. If six of these stockholders are randomly selected, what is the probability that exactly three are housewives?

a. 0.568

b. 0.011

c. 0.083

d. 0.282

e. 0.073

Answer: E

16. A large manufacturing company that produces CD players believes that 1 out of every 20 CD players is defective. To ensure quality control, a random sample of 120 CD players were selected and tested. A large quality control investigation would be launched if more than 10 out of the 120 CD players selected are defective. What is the probability that exactly ten out of the 120 CD players are defective?

a. 0.040

b. 0.105

c. 0.163

d. 0.107

e. 0.063

Answer: A

17. A large manufacturing company that produces CD players believes that 1 out of every 20 CD players is defective. To ensure quality control, a random sample of 120 CD players were selected and tested. A large quality control investigation would be launched if more than 10 out of the 120 CD players selected are defective. What is the probability that exactly 8 out of the 120 CD players are defective?

a. 0.040

b. 0.105

c. 0.163

d. 0.107

e. 0.063

Answer: B

18. A large manufacturing company that produces CD players believes that 1 out of every 20 CD players is defective. To ensure quality control, a random sample of 120 CD players were selected and tested. A large quality control investigation would be launched if more than 10 out of the 120 CD players selected are defective. What is the probability that exactly five out of the 120 CD players are defective?

a. 0.040

b. 0.105

c. 0.163

d. 0.107

e. 0.063

Answer: C

19. A large manufacturing company that produces CD players believes that 1 out of every 10 CD players is defective. To ensure quality control, a random sample of 120 CD players were selected and tested. A large quality control investigation would be launched if more than 10

out of the 120 CD players selected are defective. What is the probability that exactly ten out of the 120 CD players are defective?

a. 0.040

b. 0.105

c. 0.163

d. 0.107

e. 0.063

Answer: D

20. A large manufacturing company that produces CD players believes that 1 out of every 10 CD players is defective. To ensure quality control, a random sample of 120 CD players were selected and tested. A large quality control investigation would be launched if more than 10 out of the 120 CD players selected are defective. What is the probability that exactly 8 out of the 120 CD players are defective?

a. 0.040

b. 0.105

c. 0.163

d. 0.107

e. 0.063

Answer: E