

## Examrace

### Statistics MCQs – Continuous Distributions Part 11

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201. The diameters of oranges found in the orchard of an orange farm follow a normal distribution with a mean of 120mm and a standard deviation of 10mm. The farmer would like to select the largest 8 % of oranges (those with the largest diameters) in order to be able to keep them for himself and his family to enjoy! What is the cut-off diameter in this case if oranges with the largest 8 % of diameters are to be kept?

- a. 132.8
- b. 136.4
- c. 128.4
- d. 130.4
- e. 134.1

Answer: E

202. The time until first failure of a brand of inkjet printers is normally distributed with a mean of 1500 hours and a standard deviation of 200 hours. Printers are to be sold with a guarantee. The manufacturer of the printers wants only 5 % of printers to fail before the guarantee period is up. What number of hours should the guarantee period be set at so that only 5 % of printers fail before this time?

- a. 1171 hours
- b. 1244 hours
- c. 1205 hours
- d. 1124 hours
- e. 1089 hours

Answer: A

203. The time until first failure of a brand of inkjet printers is normally distributed with a mean of 1500 hours and a standard deviation of 200 hours. Printers are to be sold with a guarantee. The manufacturer of the printers wants only 10 % of printers to fail before the guarantee period is up. What number of hours should the guarantee period be set at so that only 10 % of printers fail before this time?

- a. 1171 hours
- b. 1244 hours
- c. 1205 hours
- d. 1124 hours
- e. 1089 hours

Answer: B

204. The time until first failure of a brand of inkjet printers is normally distributed with a mean of 1500 hours and a standard deviation of 200 hours. Printers are to be sold with a guarantee. The manufacturer of the printers wants only 7 % of printers to fail before the guarantee period is up. What number of hours should the guarantee period be set at so that only 7 % of printers fail before this time?

- a. 1171 hours
- b. 1244 hours
- c. 1205 hours
- d. 1124 hours
- e. 1089 hours

Answer: C

205. The time until first failure of a brand of inkjet printers is normally distributed with a mean of 1500 hours and a standard deviation of 200 hours. Printers are to be sold with a guarantee. The manufacturer of the printers wants only 3 % of printers to fail before the guarantee period is up. What number of hours should the guarantee period be set at so that only 3 % of printers fail before this time?

- a. 1171 hours
- b. 1244 hours
- c. 1205 hours
- d. 1124 hours
- e. 1089 hours

Answer: D

206. The time until first failure of a brand of inkjet printers is normally distributed with a mean of 1500 hours and a standard deviation of 200 hours. Printers are to be sold with a guarantee. The manufacturer of the printers wants only 2 % of printers to fail before the guarantee period is up. What number of hours should the guarantee period be set at so that only 2 % of printers fail before this time?

- a. 1171 hours
- b. 1244 hours
- c. 1205 hours
- d. 1124 hours
- e. 1089 hours

Answer: E

207. The starting annual salaries of newly qualified chartered accountants (CA's) in South Africa follow a normal distribution with a mean of R180,000 and a standard deviation of R10,000. What is the minimum annual salary earned by the top 5 % of newly qualified CA's?

- a. R196,449
- b. R192,816
- c. R190,364
- d. R198,808
- e. R203,263

Answer: A

208. The starting annual salaries of newly qualified chartered accountants (CA's) in South Africa follow a normal distribution with a mean of R180,000 and a standard deviation of R10,000. What is the minimum annual salary earned by the top 10 % of newly qualified CA's?

- a. R196,449
- b. R192,816
- c. R190,364
- d. R198,808
- e. R203,263

Answer: B

209. The starting annual salaries of newly qualified chartered accountants (CA's) in South Africa follow a normal distribution with a mean of R180,000 and a standard deviation of R10,000. What is the minimum annual salary earned by the top 15 % of newly qualified CA's?

- a. R196,449
- b. R192,816

- c. R190,364
- d. R198,808
- e. R203,263

Answer: C

210. The starting annual salaries of newly qualified chartered accountants (CA's) in South Africa follow a normal distribution with a mean of R180,000 and a standard deviation of R10,000. What is the minimum annual salary earned by the top 3 % of newly qualified CA's?

- a. R196,449
- b. R192,816
- c. R190,364
- d. R198,808
- e. R203,263

Answer: D

211. The starting annual salaries of newly qualified chartered accountants (CA's) in South Africa follow a normal distribution with a mean of R180,000 and a standard deviation of R10,000. What is the minimum annual salary earned by the top 1 % of newly qualified CA's?

- a. R196,449
- b. R192,816
- c. R190,364
- d. R198,808
- e. R203,263

Answer: E

212. The starting annual salaries of newly qualified chartered accountants (CA's) in South Africa follow a normal distribution with a mean of R180,000 and a standard deviation of R10,000. What is the maximum annual salary earned by the 5 % of newly qualified CA's with the lowest salaries?

- a. R163,551
- b. R167,184
- c. R169,636
- d. R161,192

e. R156,737

Answer: A

213. The starting annual salaries of newly qualified chartered accountants (CA's) in South Africa follow a normal distribution with a mean of R180,000 and a standard deviation of R10,000. What is the maximum annual salary earned by the 10 % of newly qualified CA's with the lowest salaries?

a. R163,551

b. R167,184

c. R169,636

d. R161,192

e. R156,737

Answer: B

214. The starting annual salaries of newly qualified chartered accountants (CA's) in South Africa follow a normal distribution with a mean of R180,000 and a standard deviation of R10,000. What is the maximum annual salary earned by the 15 % of newly qualified CA's with the lowest salaries?

a. R163,551

b. R167,184

c. R169,636

d. R161,192

e. R156,737

Answer: C

215. The starting annual salaries of newly qualified chartered accountants (CA's) in South Africa follow a normal distribution with a mean of R180,000 and a standard deviation of R10,000. What is the maximum annual salary earned by the 3 % of newly qualified CA's with the lowest salaries?

a. R163,551

b. R167,184

c. R169,636

d. R161,192

e. R156,737

Answer: D

216. The starting annual salaries of newly qualified chartered accountants (CA's) in South Africa follow a normal distribution with a mean of R180,000 and a standard deviation of R10,000. What is the maximum annual salary earned by the 1 % of newly qualified CA's with the lowest salaries?

- a. R163,551
- b. R167,184
- c. R169,636
- d. R161,192
- e. R156,737

Answer: E

217. In a large statistics class the heights of the students are normally distributed with a mean of 172cm and a variance of  $25\text{cm}^2$ . If only the shortest 10 % of students are to be selected to perform a specific task, what is the cut-off height?

- a. 178.4cm
- b. 123.5cm
- c. 165.6cm
- d. 145.7cm
- e. 159.2cm

Answer: C

218. In a large statistics class the heights of the students are normally distributed with a mean of 172cm and a variance of  $25\text{cm}^2$ . If only the tallest 10 % of students are to be selected to perform a specific task, what is the cut-off height?

- a. 178.4cm
- b. 123.5cm
- c. 165.6cm
- d. 145.7cm
- e. 159.2cm

Answer: A

219. A statistical analysis of long-distance telephone calls indicates that the length of these calls is normally distributed with a mean of 240 seconds and a standard deviation of 40 seconds. What is the length of a particular call (in seconds) if only 1 % of calls are shorter?

- a. 146.95

- b. 157.85
- c. 174.21
- d. 333.05
- e. 305.79

Answer: A

220. A statistical analysis of long-distance telephone calls indicates that the length of these calls is normally distributed with a mean of 240 seconds and a standard deviation of 40 seconds. What is the length of a particular call (in seconds) if only 2 % of calls are shorter?

- a. 146.95
- b. 157.85
- c. 174.21
- d. 333.05
- e. 305.79

Answer: B

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