Question 10

A single observation 14.4 is collected on the triangular distribution with unknown parameter θ. Select from the following options a 98% confidence interval for θ based on this one observation.

Options

A (15,1433)	**B** (28,1470)	**C** (16,2873)	**D** (17,2870)
E (17,1433)	**F** (16,1433)	**G** (29,2873)	**H** (15,1440)

Question 11

Assuming that variation in a measured attribute within a population may be adequately modelled as a normal random variable with unknown mean μ and unknown standard deviation σ, use the following sample to calculate a 95% confidence interval for μ: 1563, 1320, 1511, 1455, 1222, 1416.

Options

A $(1311, 1518)$	**B** $(1208, 1621)$	**C** $(1375, 1455)$
D $(1010, 1820)$	**E** $(1283, 1546)$	**F** $(1389, 1440)$
G $(1385, 1445)$	**H** $(1283, 1415)$	

Question 12

Question 11, continued. Use the data of Question 11 to calculate a 95% confidence interval for σ.

Options

A $(84.5, 263)$	**B** $(78.5, 308)$	**C** $(68.7, 438)$	**D** $(71.2, 435)$
E $(76.7, 311)$	**F** $(80.4, 303)$	**G** $(43.4, 877)$	**H** $(77.0, 311)$

Questions 13 to 18 are based on material covered in *Chapter 8*.

Question 13

look up

A fixed-level test of the hypothesis $H_0 : \mu \geq \mu_0$ against the alternative hypothesis $H_1 : \mu < \mu_0$ is required for a normal mean. A sample of size 40 is to be collected from the relevant population. Choose the rejection region for the test statistic t at a 5% significance level.

Options

A $t < -2.023$	**B** $t > 2.021$	**C** $t < -1.685$	**D** $t < -1.304$
E $t < -2.021$	**F** $t > 1.685$	**G** $t > 1.304$	**H** $t > 2.023$

Question 14

Student's one-sample t-test for zero mean difference was used to investigate a sample of 17 differences. The sample mean was $\overline{d} = 1.22$ and the sample standard deviation was $s = 2.17$. Calculate the corresponding value of the t-statistic.

1.22
$2.17/\sqrt{17}$

Options

A -2.318	**B** -2.249	**C** 2.249	**D** -2.385
E 0.8931	**F** 2.318	**G** 2.385	**H** 1.159