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| |  |  |  |  |  | | --- | --- | --- | --- | --- | | |  |  |  |  | | --- | --- | --- | --- | | |  |  |  | | --- | --- | --- | | |  |  | | --- | --- | | |  | | --- | |  |   **Hypothesis test for the population mean: Z test**  A leasing firm claims that the mean number of miles driven annually, http://www.phoenix.aleks.com/alekscgi/x/math2htgif.exe/M?%25nv8, in its leased cars is less than http://www.phoenix.aleks.com/alekscgi/x/math2htgif.exe/M?20073miles. A random sample of http://www.phoenix.aleks.com/alekscgi/x/math2htgif.exe/M?20cars leased from this firm had a mean of http://www.phoenix.aleks.com/alekscgi/x/math2htgif.exe/M?2010%3Aannual miles driven. It is known that the population standard deviation of the number of miles driven in cars from this firm is http://www.phoenix.aleks.com/alekscgi/x/math2htgif.exe/M?25%3B3miles. Assume that the population is [normally distributed.](http://www.phoenix.aleks.com/alekscgi/x/Isl.exe/1AGQPWSwiEJ3PEANHsDf6GHg2i0gaTFhaCeDs-s6aVzVelRIrkxOUB0KHIxbAZ3F58WtnEXm86q8dYHPrAXUrSqczqw3uDgm2hv7B5NjXGhLa9b78l8Ea?1KKuLo-YrQEsUtzx7OUYni0wpTzqpCLMQ5fXwJiYw-9qdC8F3gqJkhcbk1gHtjYq7l8h62vOioJu2H_SLgzj-QpiQIcIKUzFfG0t1Pl7WFLxX-WEOJcKJZ9x) Is there support for the firm's claim at the http://www.phoenix.aleks.com/alekscgi/x/math2htgif.exe/M?3%2D2[level of significance](http://www.phoenix.aleks.com/alekscgi/x/Isl.exe/1EMkDzBNReOfDeVyxT8d9sDE5AV008z70w7y4VCj08ezOXqMFhjW60V-xPGBQyyRWtEPkekKMS5IoLEgFEdmFd5VBb9RimdK5WbIN6th3sAP0u6IMXFF0?1T8c9g5QIpMf0iOuHuxQEZbkOaO3jmUDBVzjhgLMm5_XGZ5um9OYfm1sTYFzIUokI3bmvI-tyfpr8ijWN5R8Hq8EdDB1YKyex7HwuekU4cvVNlFsiNiOwxR)?  Perform a [one-tailed test](http://www.phoenix.aleks.com/alekscgi/x/Isl.exe/1OsbdihHHs0adsD83MNqgbuc8jEc6gqA6ko7Dl8o6XyUI5fQ-PigLfDP3miKzHbzMCzF4sCtRornw2uR-OCH-_lJ5nZ9KVUt8JjnWu_MTbH36AMZR5ts6?1oktOmThYqmpbnyMGlnhMGDD5MZCEn__JWfkbJsX3xhEMOF8FXqpby6O8o-OKJh-pTuvPreovR2mpuKzSnZFlG2uaz64ww30w-C-J_lmBZ3FyTVaw). Then fill in the table below.  Carry your intermediate computations to at least three decimal places, and round your responses as specified in the table. (If necessary, consult a [list of formulas](http://www.phoenix.aleks.com/alekscgi/x/Isl.exe/127ohC5vpUIIphxbnxj_lIrGCSlKdBh650BOUkjKc0pwLfYoMl37MkR4vM7siQiHozPCHFmlYG0Q9afI6naorO2wN_xnayNjZVADvRgmlSoya71gLPKx?1MtM2Kc_nx2PcQV3gAB3x9Sg0mUtWYFzP7pcI8ee0nvU0aJ_50hw3sWoB7L7jLncu2RMZUzyeNXWXkRpPL1gNm1s1Yu8lXy).) | | | | |

The null hypothesis H0

The alternative hypothesis H1

The type of test statistics

Z

T

Chi square

F

The value of the test statistic (round to at least three decimal places)

The critical value at the 0.1 level of significance (round to at least three decimal places)

Can we support the leasing company’s claim that the mean number of miles driven annually is less than 13,340 miles? Yes or No