**F test of a multiple regression model**

To help schedule staffing and equipment needs, a large hospital uses a [multiple regression model](http://www.phoenix.aleks.com/alekscgi/x/Isl.exe/1TAtaYnnoYz7oCyzcko7w6tyygveuhMmhpK552IeHWXBMJitFOYhF2D9YjD8hXLjKM3SrCvJzHGuN5NGbF4VrdvAVgZSrw37_nuVlXDHuDBLqSyyzfo?1hlTSB0dW-9SIMZqc8YcxDWoGqtGL6rUt9GTzEpRiLZeQymV1ZvKvaXNvvVgWYeDhwmMm3P_bBdwBudErvAP7RTqmjEy2Xo2WYWoe-8xmbEcxQVqmOTEnsUo) to predict its 'bed census' http://www.phoenix.aleks.com/alekscgi/x/math2htgif.exe/M?z, the number of beds occupied at the end of each day. Using hospital records from the most recent http://www.phoenix.aleks.com/alekscgi/x/math2htgif.exe/M?01days, a total of http://www.phoenix.aleks.com/alekscgi/x/math2htgif.exe/M?0[independent variables](http://www.phoenix.aleks.com/alekscgi/x/Isl.exe/11GroEpyIDAqITeoSX8qFrwd5-nRa25vpUmcKs7R9UKAXSfbnBgansVP8xsrpOUY6GHhlVn0uwbIR4Ysr8z8lgnDT-WhlYHqPL18MOsua9Q44XDduPR?1AsghOzoz24_xkQndnoIi7nzeFvTBWSXz0CoxOwFnM37V5QCRn_mBukremW9PVesz24VfZ_TTP0-lDB-8fTHWvWFQLE2XlqAcCel1798wLN0gYwD_LDDDG9ye) are used to find the estimated regression model. Let http://www.phoenix.aleks.com/alekscgi/x/math2htgif.exe/M?%25afwb%3Fpva%3D2%3F%2Cpva%3D%2F%23%25afwb%3Fpva%3D1%3F%2Cpva%3Dand http://www.phoenix.aleks.com/alekscgi/x/math2htgif.exe/M?%25afwb%3Fpva%3D0%3F%2Cpva%3Ddenote the coefficients of the http://www.phoenix.aleks.com/alekscgi/x/math2htgif.exe/M?0variables in this model. A computer printout indicates that the total sum of squares (SST) associated with the model is http://www.phoenix.aleks.com/alekscgi/x/math2htgif.exe/M?45%3B%2D4%3Band the corresponding regression sum of squares (SSR) is http://www.phoenix.aleks.com/alekscgi/x/math2htgif.exe/M?215%2D30. Using a [significance level](http://www.phoenix.aleks.com/alekscgi/x/Isl.exe/12D9dC4ehCyzhdcLFxPurIfv2SjZkB23yikQCkxZ60Cg7f19lltVlko7fbNzycvSU6rOYdjXSAVtia_kTWlWYJjUvSbOYpbzWH5W8coskTAasPcvS4o?1buzLyfTr_iYUNpi7BXTndxuhihdk-Dj2bt7T3ynyplZddjByxhrSOFq9lNJrKburhxO6AplQ8YdKT72H4zRhgyGiF5uNofJXMyvjZoGanNnoryGRXLvV2R) of http://www.phoenix.aleks.com/alekscgi/x/math2htgif.exe/M?3%2D36, can you conclude that at least one of the independent variables in the model provides useful (i.e., statistically significant) information for predicting daily bed census?

Perform a [one-tailed test](http://www.phoenix.aleks.com/alekscgi/x/Isl.exe/1y3JVKPOTKfBToOgmDXiJAST1zkdsN1cQRsYEuXdGvE3aYnJBF5bBubMSUbBQ96uD9JLzak3-vHgCilu9Pi_zekK6uxLz_JB8xj_u9b4sbFiWDOT-Cq?15QXsudP7RwolL8F-G1PgJ2-6O1ye7ZAiUazlScn5SjQgi0gZ-eol4t7Ly67ckjLHETsJjsYzYF9YTDy6X7niFKmG5t2wXm4DXve0rzRrXLRnLmSN). Then fill in the table below.

Carry your intermediate computations to at least three decimal places and round your answers as specified in the table.

Ho:

H1:at least one of the independent variables is useful

The type of test statistic (chi square, t, F, z) degrees of freedom\_\_

The value of the test statistic (round to at least two decimal places)\_\_\_

The p-value (round to at least two decimal places)\_\_\_