**Gulf Real Estate Properties**

Gulf Real Estate Properties, Inc., is a real estate firm located in southeast Florida. The company, which advertises itself as “expert in the real estate market,” monitors condominium sales by collecting data on location, list price, sale price, and number of days it takes to sell each unit. Each condominium is classified as *Gulf View* if it is located directly on the Gulf of Mexico or *No Gulf View* is it is located on the bay or a golf course, near but not on the Gulf. Sample data from the Multiple Listing Service in Naples, Florida, provided recent sales data for 40 Gulf View condominiums and 18 No Gulf View condominiums. Prices are in thousands of dollars. The data are shown in the table below.

海湾房地产

海湾房地产房地产，公司，是一个房地产公司位于佛罗里达州东南部。该公司宣称自己是“房地产市场专家”，通过收集位置、标价、售价和售出每套公寓所需的天数等数据来监控公寓的销售情况。每个公寓被分类为海湾的看法，如果它是位于墨西哥湾直接或没有海湾的看法是它位于海湾或高尔夫球场，附近但不是在海湾。样本数据来自佛罗里达州那不勒斯的multi Listing Service，提供了40套海湾景观公寓和18套没有海湾景观公寓的近期销售数据。价格以数千美元计。数据如下表所示。

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Gulf View Condominiums** | | | **No Gulf View Condominiums** | | |
| **List Price** | **Sale Price** | **Days to Sell** | **List Price** | **Sale Price** | **Days to Sell** |
| 495.0 | 475.0 | 130 | 217.0 | 217.0 | 182 |
| 379.0 | 350.0 | 71 | 148.0 | 135.5 | 338 |
| 529.0 | 519.0 | 85 | 186.5 | 179.0 | 122 |
| 552.5 | 534.5 | 95 | 239.0 | 230.0 | 150 |
| 334.9 | 334.9 | 119 | 279.0 | 267.5 | 169 |
| 550.0 | 505.0 | 92 | 215.0 | 214.0 | 58 |
| 169.9 | 165.0 | 197 | 279.0 | 259.0 | 110 |
| 210.0 | 210.0 | 56 | 179.9 | 176.5 | 130 |
| 975.0 | 945.0 | 73 | 149.9 | 144.9 | 149 |
| 314.0 | 314.0 | 126 | 235.0 | 230.0 | 114 |
| 315.0 | 305.0 | 88 | 199.8 | 192.0 | 120 |
| 885.0 | 800.0 | 282 | 210.0 | 195.0 | 61 |
| 975.0 | 975.0 | 100 | 226.0 | 212.0 | 146 |
| 469.0 | 445.0 | 56 | 149.9 | 146.5 | 137 |
| 329.0 | 305.0 | 49 | 160.0 | 160.0 | 281 |
| 365.0 | 330.0 | 48 | 322.0 | 292.5 | 63 |
| 332.0 | 312.0 | 88 | 187.5 | 179.0 | 48 |
| 520.0 | 495.0 | 161 | 247.0 | 227.0 | 52 |
| 425.0 | 405.0 | 149 |  |  |  |
| 675.0 | 669.0 | 142 |  |  |  |
| 409.0 | 400.0 | 28 |  |  |  |
| 649.0 | 649.0 | 29 |  |  |  |
| 319.0 | 305.0 | 140 |  |  |  |
| 425.0 | 410.0 | 85 |  |  |  |
| 359.0 | 340.0 | 107 |  |  |  |
| 469.0 | 449.0 | 72 |  |  |  |
| 895.0 | 875.0 | 129 |  |  |  |
| 439.0 | 430.0 | 160 |  |  |  |
| 435.0 | 400.0 | 206 |  |  |  |
| 235.0 | 227.0 | 91 |  |  |  |
| 638.0 | 618.0 | 100 |  |  |  |
| 629.0 | 600.0 | 97 |  |  |  |
| 329.0 | 309.0 | 114 |  |  |  |
| 595.0 | 555.0 | 45 |  |  |  |
| 339.0 | 315.0 | 150 |  |  |  |
| 215.0 | 200.0 | 48 |  |  |  |
| 395.0 | 375.0 | 135 |  |  |  |
| 449.0 | 425.0 | 53 |  |  |  |
| 499.0 | 465.0 | 86 |  |  |  |
| 439.0 | 428.5 | 158 |  |  |  |

**Managerial Report**

1. Use appropriate descriptive statistics to summarize each of the three variables for the 40 Gulf View condominiums.
2. Use appropriate descriptive statistics to summarize each of the three variables for the 18 No Gulf View condominiums.
3. Compare your summary results. Discuss specific statistical results that would help a real estate agent understand the condominium market.
4. Develop a 95% confidence interval estimate of the population mean sales price and population mean number of days to sell for Gulf View condominiums. Interpret your results.
5. Develop a 95% confidence interval estimate of the population mean sales price and population mean number of days to sell for No Gulf View condominiums. Interpret your results.
6. Assume the branch manager requested estimates of the mean selling price of Gulf View condominiums with a margin of error of $40,000 and the mean selling price of No Gulf View condominiums with a margin of error of $15,000. Using 95% confidence, how large should the sample sizes be?
7. Gulf Real Estate Properties just signed contracts for two new listings: a Gulf View condominium with a list price of $589,000 and a No Gulf View condominium with a list price of $285,000. What is your estimate of the final selling price and number of days required to sell each of these units?

管理报告

1.使用适当的描述性统计来总结40个海湾视图公寓的三个变量。

2.使用适当的描述性统计来总结18个无海湾景观公寓的三个变量。

3.比较总结结果。讨论具体的统计结果，这将有助于房地产经纪人了解公寓市场。

4.开发海湾景观公寓的人口平均销售价格和人口平均销售天数的95%置信区间估计。解释你的结果。

5.开发一个95%置信区间估计的人口平均销售价格和人口平均天数出售没有海湾景观公寓。解释你的结果。

6.假设分公司经理要求估算Gulf View共管公寓的平均售价(误差为$40,000)和非Gulf View共管公寓的平均售价(误差为$15,000)。使用95%置信，样本容量应该有多大?

7.海湾房地产公司(Gulf Real Estate Properties)刚刚签署了两套新挂牌交易的合同:一套有海湾景观的共管公寓，挂牌价格为58.9万美元，另一套没有海湾景观的共管公寓，挂牌价格为28.5万美元。你估计这些单位的最终售价和销售所需的天数是多少?

**Metropolitan Research, Inc.**

Metropolitan Research, Inc., a consumer research organization, conducts survey designed to evaluate a wide variety of products and services available to consumers. In one particular study, Metropolitan looked at consumer satisfaction with the performance of automobile produced by a major Detroit manufacturer. A questionnaire sent to owners of one of the manufacturer’s full-sized cars revealed several complaints about early transmission problems. To learn more about the transmission failures, Metropolitan used a sample of actual transmission repairs provided by a transmission repair firm in the Detroit area. The following data show the actual number of miles driven for 50 vehicles at the time of transmission failure.

Metropolitan Research, Inc.，一个消费者研究组织，进行调查，旨在评估各种各样的产品和服务提供给消费者。在一项特别的研究中，大都会调查了消费者对底特律一家主要制造商生产的汽车性能的满意度。向该公司一款全尺寸汽车的车主发送的调查问卷显示，他们对早期的变速器问题提出了多项投诉。为了了解更多关于传输故障的信息，大都会公司使用了底特律地区一家传输修复公司提供的实际传输修复样本。下面的数据显示了在传输故障时50辆车的实际行驶里程。

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 85,092 | 32,609 | 59,465 | 77,437 | 32,534 | 64,090 | 32,464 | 59,902 |
| 39,323 | 89,641 | 94,219 | 116,803 | 92,857 | 63,436 | 65,605 | 85,861 |
| 64,342 | 61,978 | 67,998 | 59,817 | 101,769 | 95,774 | 121,352 | 69,568 |
| 74,276 | 66,998 | 40,001 | 70,069 | 25,066 | 77,098 | 69,922 | 35,662 |
| 74,425 | 67,202 | 118,444 | 53,500 | 79,294 | 64,544 | 86,813 | 116,269 |
| 37,831 | 89,341 | 73,341 | 85,288 | 138,114 | 53,402 | 85,586 | 82,256 |
| 77,539 | 88,798 |  |  |  |  |  |  |

**Managerial Report**

1. Use appropriate descriptive statistics to summarize the transmission failure data.
2. Develop a 95% confidence interval for the mean number of miles driven until transmission failure for the population of automobiles with transmission failure. Provide a managerial interpretation of the interval estimate.
3. Discuss the implication of your statistical findings in terms of the belief that some owners of the automobiles experienced early transmission failures.
4. How many repair records should be sampled if the research firm wants the population mean number of miles driven until transmission failure to be estimated with a margin of error of 5000 miles? Use 95% confidence.
5. What other information would you like to gather to evaluate the transmission failure problem more fully?

管理报告

1.使用适当的描述性统计来总结传输故障数据。

2.对于有传动故障的汽车的数量，建立一个95%的置信区间来表示在传动故障之前行驶的平均英里数。提供区间估计的管理解释。

3.讨论你的统计结果的含义，相信一些车主经历了早期的变速箱故障。

4.如果研究公司想要以5000英里的误差幅度来估计在传输故障之前的人口平均行驶里程，那么应该采样多少次修理记录?使用95%的信心。

5.您还希望收集哪些信息来更全面地评估传输故障问题?