

最終試験- Final Examination

データ解析基礎- Basic Data Analysis

June 28, 2012

Problems

When you are asked to do a calculation, you do not need to compute the decimal equivalent of a fraction or radical (square root). Fractions should be reduced to lowest terms for convenience in grading. Radicals do not need to be reduced.

Extra credit will *not* be considered in determining point-to-letter-grade conversion. Those points will be added to your score after the scale is decided.

計算を行うときには分数または根数のままを書いてもよい。少数にする必要はない。ただし、分数の分母と分子は互いに素にすること。

ボーナスポイントはポイントからレターグレードへの変換スケールへ影響しない。そのポイントはスケールを決めてからあなたのスコアに加える予定です。

For Problems 1 to 5, use **Data Set A**. (Each student receives a different data set.) Note that the data set has the *true* standard deviation reported; you do not need to calculate it. Data Set A is a data set of the *projected peak demand for electricity for one day as a percent of capacity*.

問題1～5にデータセットAを利用してください。(注意: 皆に別のデータを用意する。必ずデータセットIDを確認すること。) データセットAは1日の電力の最高重要。単位は電力生産能力のパーセント。

Copy your data set in the space below: ここにデータを写ってください:

1. Divide your data into **four** (4) cells. **Explain** why you chose those cells.

データを4区間に区別せよ。その区間選択の理由を説明せよ。

Name _____ Dataset# _____ ID# _____ 2

2. Construct the *absolute*, *relative*, and *cumulative relative frequency* distributions. For each cell, choose a representative value. Enter all of this information in a table.

データを「」に変換して絶対頻度分布、相対頻度分布、または（相対）累積分布を書け。1つの表にまとめること。

3. Draw the histogram of the distribution.

データを4区間に区別せよ。その区間選択の理由を説明せよ。分布のヒストグラムを描くこと。

4. Compute the *median* and the *mean* of the distribution. **Show your work or explain the process.**

中央値(メディアン) と平均値を計算せよ。ただし、計算方法を細かく書くか説明すること。

5. A coin is tossed six times. Two (of the many) possible results are

(i) 3 heads out of 6 tosses (ii) 6 heads.

Which of the following statements is correct? Explain briefly.

硬貨を6回なげる。数多くの結果の中で

(i) 6回のうち、表3回 (ii) 6回のうち、表6回

の2つがある。) 以下のケースの中から正しいのはどれであるか。その理由を簡単に説明せよ。

- (a) Result (i) is more likely.
結果 (i) の確立が高い。
- (b) Result (ii) is more likely.
結果 (ii) の確立が高い。
- (c) Both results are equally likely.
両結果の確立が等しい。

6. Two random variables are independent. What is their correlation coefficient? Explain briefly.

2つの乱数は独立だ。その相関係数の値は? その理由を説明せよ。

7. Suppose your regression estimator for the effect of the drug Benecid on uric acid level is known to be *unbiased*, and based on your data your estimate is a reduction of $0.5\text{mg}/\ell$ for each 100mg dose of Benecid. If your patient needs to reduce uric acid level by $1.0\text{mg}/\ell$, then should you prescribe *less than*, *more than*, or *exactly* 200mg of Benecid? Explain.

Benecidという薬を 100mg 飲むと尿酸のレベルが $0.5\text{mg}/\ell$ 下がるとデータの回帰分析で推定値が分かった。その推定量は不偏推定量とする。もしある患者が尿酸レベルを $1.0\text{mg}/\ell$ で下げる必要があれば、 200mg と比べて処方すべき量はより少ないかより多いかちょうど 200mg ですか。その理由を説明せよ。

8. Suppose that events A and B are *mutually exclusive*, with $Pr(A) = 1/2$ and $Pr(B) = 1/3$.

事象 A と事象 B を排反事象とし、 $Pr(A) = 1/2$ と $Pr(B) = 1/3$ とする。

- (a) Can you compute $Pr(A \cup B)$, the probability of A **or** B happening? Explain why or why not, and if it is possible, compute $Pr(A \cup B)$.

$Pr(A \cup B)$ という A か B かが起きる確立は計算可能であるか? その理由を説明せよ。可であれば、 $Pr(A \cup B)$ を計算せよ。

- (b) Can you compute $Pr(A \cap B)$, the probability of A **and** B happening? Explain why or why not, and if it is possible, compute $Pr(A \cap B)$.

$Pr(A \cap B)$ という A と B が同時に起きる確立は計算可能であるか? その理由を説明せよ。可であれば、 $Pr(A \cap B)$ を計算せよ。

9. Give the definition of *mode*. Find the mode of the *raw* data from Data Set B. Now, convert Data Set B to letter grades according to the usual scale, and enter a table containing the letter grade, the *scale* \square *interval*, the absolute frequency, the relative frequency, and the cumulative frequency distribution. What is the *mode* of the distribution of letter grades? Compare it to the raw (point score) mode.

最頻値(モード)の定義を書け。データセットBの最頻値を記入せよ。データセットBを普通のスケールでレターグレードに変換し、レターグレード、 v スケール範囲、絶対同数、相対同数、と(相対)累積頻度分布を表に記入すること。レターグレード分布の最頻値を求めよ。点数のモードと比較せよ。

10. In theory, the mode of the raw scores could be “different” from the mode of the distribution of letter grades. Explain how to compare the raw score to a letter grade, when one is a number and the other is a letter. Explain how the modes could be different (*i.e.*, what kind of data set (an example is OK) would generate different modes. Are the mode of the raw data and the mode of the distribution “different” in your Data Set B?

理論上にデータの最頻値と分布による最頻値は異なる可能性がある。まず、レターグレードと点数との比較方法を説明せよ。そして、どんなデータではデータの最頻値が分布の最頻レターグレードの範囲に入らないかを説明すること。Data Set Bでは実際に違いますか?

11. Draw a histogram for the *raw* data set. Drawing a histogram involves a choice of division into cells of values. (Recall that a *cell* is a group of values that are close to each other.) *Explain why* you chose the cells you did.

点数データのヒストグラムを描け。ヒストグラムの作成には値の区間（セル、仕切り）の選択が必要だ。（区間は値の範囲だ。）区間の選択の理由を説明せよ。

12. Which of *random variable* and *distribution* can you define and describe without using *primitive events*, but only using ordinary events? Explain your answer by referring to the definitions.

「乱数」と「分布」のどちらが「primitive event」を使わずに定義できるか。（普通の「event」（事象）はもちろん使う。）その理由を説明すること。

The rest of the questions address the following R output for a regression model and the corresponding residuals. The variable Imports is the percentage share of imports in U.S. GDP in 1947.1 to 2010.1. Consumption, Investment, and Government are similarly the shares of the respective sectors in U.S. GDP over the period. (N.B. This is a terrible model, from the point of view of macroeconomic theory!)

以下の問題は下記のR出力を問う。この回帰モデルでは Imports はアメリカ経済での輸入の国内総生産額の比率だ。同じ様に Consumption や Investment や Government はそれぞれ消費・投資・政府の国内総生産額への比率だ。

Call:

```
lm(formula = Imports ~ Consumption + Investment + Government)
```

Residuals:

	Min	1Q	Median	3Q	Max
	-5.2282	-1.0713	-0.1838	1.1828	3.4704

Coefficients:

	Estimate	Std. Error	t value	Pr(> t)
(Intercept)	-150.28788	5.24117	-28.67	<2e-16 ***
Consumption	1.74528	0.04911	35.54	<2e-16 ***
Investment	1.40000	0.07482	18.71	<2e-16 ***
Government	1.16545	0.07736	15.07	<2e-16 ***

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 1.542 on 249 degrees of freedom

Multiple R-squared: 0.8624, Adjusted R-squared: 0.8608

F-statistic: 520.4 on 3 and 249 DF, p-value: < 2.2e-16

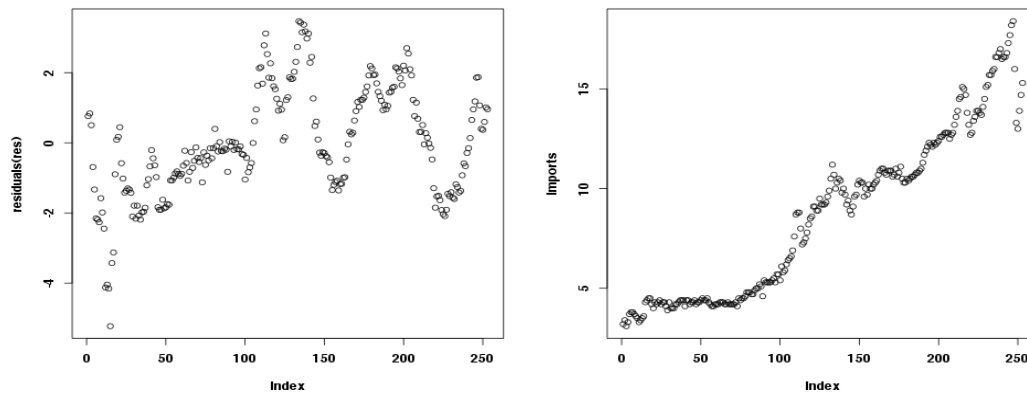


Figure 1: Regression residuals and import shares (percent)

14. Answer the following questions based on the regression output.

回帰分析結果を参照し、以下の問を解答せよ。

- (a) Test the hypothesis that an increase in consumption share does not affect imports. Express your null hypothesis H_0 and the alternative hypothesis H_1 in words *and* in equations. What is the result?

消費の比率が輸入の比率へ影響を与えないという仮説を検定せよ。帰無仮説 H_0 と対立仮説 H_1 を言葉と式で表現せよ。その結果を説明せよ。

- (b) Consider the residual plot. Do the errors seem to be i.i.d.?

Residualのグラフを見て、誤差がi.i.d.かどうかについて検討せよ。

Consider the following R output for a factor analysis of the national income account shares of the U.S. (This is the same data as used in the preceding regression analysis.) *None of the parts of this question require knowledge of economics, except the extra credit.*

以下のR出力はfactor analysisによるアメリカの国民所得会計の分析だ。(前問の会期分析と同じデータだ。) ボナスポイント問題を除く、この問題の質問は経済学的な知識は必要ありません。

Name _____ Dataset# _____ ID# _____ 9

Call:

```
factanal(x = subset(dc, select = c(Durable, Nondurable, Buildings, Equipment, Homes, Inventory, Xgoods, Xservices, Igoods, Iservices, Defense, Nondefense, Local))
```

Uniquenesses:

Durable	Nondurable	Buildings	Equipment	Homes	Inventory	Xgoods
0.451	0.151	0.829	0.198	0.030	0.840	0.109
Xservices	Igoods	Iservices	Defense	Nondefense	Local	
0.041	0.021	0.005	0.143	0.839	0.362	

Loadings:

	Factor1	Factor2	Factor3
Durable		0.795	
Nondurable	-0.681	0.155	-0.262
Buildings	-0.184	-0.266	-0.398
Equipment	0.986	0.125	-0.104
Homes		1.134	0.380
Inventory		0.344	
Xgoods	0.921	-0.129	-0.121
Xservices	0.721	-0.191	0.254
Igoods	0.848		0.316
Iservices	0.485	-0.126	0.604
Defense	-1.030	-0.149	0.125
Nondefense	0.231	-0.226	-0.421
Local	0.594	-0.287	

	Factor1	Factor2	Factor3
SS loadings	5.268	2.373	1.128
Proportion Var	0.405	0.183	0.087
Cumulative Var	0.405	0.588	0.675

Factor Correlations:

	Factor1	Factor2	Factor3
Factor1	1.000	-0.502	0.414
Factor2	-0.502	1.000	-0.486
Factor3	0.414	-0.486	1.000

Test of the hypothesis that 3 factors are sufficient.

The chi square statistic is 1075.71 on 42 degrees of freedom.

The p-value is 4.52e-198

15. Answer the following questions based on the factor analysis.

ファクター分析結果を参照し、以下の問を解答せよ。

- (a) Consider the uniquenesses. What measurements are poorly explained by the 3 factors above?

Uniquenessesを見ると、ファクターで説明できない変数が分かる。その説明できないファクターを記入せよ。

- (b) Are 3 factors sufficient to explain the data? Using a hypothesis test based on the output, explain your answer.

3つのファクターで十分にデータを説明できるか。R出力による仮説検定を用いてその理由を説明せよ。

- (c) **(Extra credit)** Each variable is related to a factor (possibly more than one) according to the Loadings. Do you see any reason (economic or otherwise) for the grouping of variables according to factor?

(ボーナスポイント) 各変数はファクターに所属する(複数可)。所属ファクターはLoadingsを見ると分かる。経済学的理由に限りなく、変数の所属ファクターのパターンの理由は分かるか。

- 1 Your data sets have data set ID #1. Be sure to enter your data set ID in the space provided.

Data Set A: 89 92 90 88 91 90 87 92 88 94

Data Set B: 670 470 920 810 740 600 650 730 620 660

- 2 Your data sets have data set ID #2. Be sure to enter your data set ID in the space provided.

Data Set A: 95 89 88 91 94 94 90 90 84 88

Data Set B: 730 600 660 650 740 920 470 670 810 620

- 3 Your data sets have data set ID #3. Be sure to enter your data set ID in the space provided.

Data Set A: 92 87 96 90 93 92 93 92 80 86

Data Set B: 650 740 920 660 620 670 730 470 600 810

- 4 Your data sets have data set ID #4. Be sure to enter your data set ID in the space provided.

Data Set A: 93 94 95 91 91 90 89 93 90 93

Data Set B: 650 920 470 660 600 620 810 670 740 730

- 5 Your data sets have data set ID #5. Be sure to enter your data set ID in the space provided.

Data Set A: 87 93 88 94 89 98 92 96 92 93

Data Set B: 600 660 740 730 470 810 620 920 650 670

- 6 Your data sets have data set ID #6. Be sure to enter your data set ID in the space provided.

Data Set A: 89 88 99 93 102 100 89 90 95 95

Data Set B: 730 740 810 650 670 620 660 920 600 470

7 Your data sets have data set ID #7. Be sure to enter your data set ID in the space provided.

Data Set A: 98 96 95 97 100 101 95 98 96 95

Data Set B: 730 670 620 650 920 810 470 660 740 600

8 Your data sets have data set ID #8. Be sure to enter your data set ID in the space provided.

Data Set A: 95 99 95 95 100 102 94 94 101 100

Data Set B: 470 920 730 740 650 670 620 660 600 810

9 Your data sets have data set ID #9. Be sure to enter your data set ID in the space provided.

Data Set A: 91 88 94 94 93 91 91 96 92 95

Data Set B: 650 600 920 670 740 810 470 620 660 730

10 Your data sets have data set ID #10. Be sure to enter your data set ID in the space provided.

Data Set A: 101 99 98 99 98 101 101 98 100 100

Data Set B: 920 650 740 810 670 730 620 470 600 660

11 Your data sets have data set ID #11. Be sure to enter your data set ID in the space provided.

Data Set A: 100 103 98 98 104 99 102 95 98 103

Data Set B: 730 470 620 920 670 810 740 600 650 660

12 Your data sets have data set ID #12. Be sure to enter your data set ID in the space provided.

Data Set A: 98 97 106 102 96 102 101 106 96 101

Data Set B: 920 470 810 660 650 620 600 670 740 730

- 13 Your data sets have data set ID #13. Be sure to enter your data set ID in the space provided.

Data Set A: 102 105 102 101 99 105 102 102 100 101

Data Set B: 810 730 470 620 650 920 600 670 740 660

- 14 Your data sets have data set ID #14. Be sure to enter your data set ID in the space provided.

Data Set A: 103 104 103 106 104 98 105 104 105 98

Data Set B: 600 810 730 740 470 620 650 660 920 670

- 15 Your data sets have data set ID #15. Be sure to enter your data set ID in the space provided.

Data Set A: 112 99 103 111 101 99 97 98 101 102

Data Set B: 920 740 600 810 470 670 730 620 660 650

- 16 Your data sets have data set ID #16. Be sure to enter your data set ID in the space provided.

Data Set A: 106 108 107 107 105 107 104 107 106 107

Data Set B: 660 740 470 650 620 600 810 730 920 670

- 17 Your data sets have data set ID #17. Be sure to enter your data set ID in the space provided.

Data Set A: 110 102 102 104 104 106 107 102 102 108

Data Set B: 670 810 660 740 620 650 600 730 470 920

- 18 Your data sets have data set ID #18. Be sure to enter your data set ID in the space provided.

Data Set A: 98 102 112 103 105 101 108 104 104 115

Data Set B: 670 470 620 730 810 740 650 600 920 660

- 19 Your data sets have data set ID #19. Be sure to enter your data set ID in the space provided.

Data Set A: 91 93 91 89 90 92 91 91 87 91

Data Set B: 470 740 920 730 650 670 620 600 810 660

- 20 Your data sets have data set ID #20. Be sure to enter your data set ID in the space provided.

Data Set A: 85 93 85 88 92 86 90 86 92 91

Data Set B: 470 730 810 660 920 600 740 620 670 650

- 21 Your data sets have data set ID #21. Be sure to enter your data set ID in the space provided.

Data Set A: 83 85 91 85 88 96 93 94 96 91

Data Set B: 730 660 650 470 600 620 740 810 920 670

- 22 Your data sets have data set ID #22. Be sure to enter your data set ID in the space provided.

Data Set A: 95 96 94 95 92 92 93 93 94 93

Data Set B: 740 600 620 730 920 810 670 660 650 470

- 23 Your data sets have data set ID #23. Be sure to enter your data set ID in the space provided.

Data Set A: 94 95 94 92 93 88 86 88 95 91

Data Set B: 600 810 730 660 670 650 740 620 920 470

- 24 Your data sets have data set ID #24. Be sure to enter your data set ID in the space provided.

Data Set A: 89 94 105 95 96 91 83 92 91 95

Data Set B: 730 620 670 920 470 650 740 660 600 810

25 Your data sets have data set ID #25. Be sure to enter your data set ID in the space provided.

Data Set A: 95 95 96 93 99 95 94 94 95 96

Data Set B: 740 620 810 670 920 470 600 730 660 650

26 Your data sets have data set ID #26. Be sure to enter your data set ID in the space provided.

Data Set A: 99 98 90 96 101 93 94 89 91 96

Data Set B: 600 660 650 730 740 920 810 670 620 470

27 Your data sets have data set ID #27. Be sure to enter your data set ID in the space provided.

Data Set A: 95 99 89 93 90 94 95 97 93 98

Data Set B: 810 660 730 650 670 600 470 920 620 740

28 Your data sets have data set ID #28. Be sure to enter your data set ID in the space provided.

Data Set A: 96 98 100 98 95 98 101 102 98 101

Data Set B: 600 470 810 650 740 620 670 660 920 730

29 Your data sets have data set ID #29. Be sure to enter your data set ID in the space provided.

Data Set A: 98 102 98 94 98 101 99 96 97 95

Data Set B: 620 660 470 670 740 650 810 600 730 920

30 Your data sets have data set ID #30. Be sure to enter your data set ID in the space provided.

Data Set A: 105 98 95 104 92 95 101 94 94 102

Data Set B: 740 730 810 650 670 620 600 920 660 470

- 31 Your data sets have data set ID #31. Be sure to enter your data set ID in the space provided.

Data Set A: 97 105 101 100 104 100 100 100 101

Data Set B: 600 730 670 660 620 740 470 650 810 920

- 32 Your data sets have data set ID #32. Be sure to enter your data set ID in the space provided.

Data Set A: 98 104 105 101 102 100 98 100 104 102

Data Set B: 650 600 810 920 730 620 670 740 660 470

- 33 Your data sets have data set ID #33. Be sure to enter your data set ID in the space provided.

Data Set A: 98 104 108 104 107 102 101 105 108 99

Data Set B: 810 650 670 660 730 920 600 470 620 740

- 34 Your data sets have data set ID #34. Be sure to enter your data set ID in the space provided.

Data Set A: 108 106 106 106 105 105 106 108 106 102

Data Set B: 810 650 670 470 920 620 730 740 600 660

- 35 Your data sets have data set ID #35. Be sure to enter your data set ID in the space provided.

Data Set A: 106 104 106 110 102 112 105 103 108 106

Data Set B: 600 670 620 470 650 660 810 730 740 920

- 36 Your data sets have data set ID #36. Be sure to enter your data set ID in the space provided.

Data Set A: 108 98 101 108 101 101 100 108 101 103

Data Set B: 600 670 920 660 620 730 740 810 470 650

37 Your data sets have data set ID #37. Be sure to enter your data set ID in the space provided.

Data Set A: 93 90 91 90 89 94 93 87 88 89

Data Set B: 670 810 600 740 650 920 660 470 620 730

38 Your data sets have data set ID #38. Be sure to enter your data set ID in the space provided.

Data Set A: 94 89 92 89 92 92 89 89 84 91

Data Set B: 650 470 670 730 810 620 600 660 740 920

39 Your data sets have data set ID #39. Be sure to enter your data set ID in the space provided.

Data Set A: 87 87 84 90 89 93 89 90 92 87

Data Set B: 920 740 810 670 730 470 650 620 600 660

40 Your data sets have data set ID #40. Be sure to enter your data set ID in the space provided.

Data Set A: 95 98 94 94 92 94 93 92 93 93

Data Set B: 670 730 620 740 810 470 920 650 660 600

41 Your data sets have data set ID #41. Be sure to enter your data set ID in the space provided.

Data Set A: 97 90 89 92 87 89 92 89 92 96

Data Set B: 660 730 600 920 650 740 470 670 620 810

42 Your data sets have data set ID #42. Be sure to enter your data set ID in the space provided.

Data Set A: 94 98 91 95 88 100 97 84 93 95

Data Set B: 650 620 920 740 730 600 670 660 810 470

43 Your data sets have data set ID #43. Be sure to enter your data set ID in the space provided.

Data Set A: 95 99 96 94 95 94 92 98 100 97

Data Set B: 730 620 810 660 670 470 600 650 740 920

44 Your data sets have data set ID #44. Be sure to enter your data set ID in the space provided.

Data Set A: 91 97 100 94 98 94 93 98 93 92

Data Set B: 620 810 660 470 740 730 650 600 920 670

45 Your data sets have data set ID #45. Be sure to enter your data set ID in the space provided.

Data Set A: 98 97 90 98 94 99 98 101 93 97

Data Set B: 650 600 730 670 620 810 740 920 470 660

46 Your data sets have data set ID #46. Be sure to enter your data set ID in the space provided.

Data Set A: 98 103 98 102 103 99 99 100 100 97

Data Set B: 810 660 670 730 600 650 620 740 470 920

47 Your data sets have data set ID #47. Be sure to enter your data set ID in the space provided.

Data Set A: 102 97 98 98 97 103 99 99 101 97

Data Set B: 600 740 670 470 620 730 660 920 810 650

48 Your data sets have data set ID #48. Be sure to enter your data set ID in the space provided.

Data Set A: 94 91 95 105 103 102 100 100 109 93

Data Set B: 740 650 600 810 670 730 660 470 620 920

49 Your data sets have data set ID #49. Be sure to enter your data set ID in the space provided.

Data Set A: 102 102 103 99 102 99 100 106 96 101

Data Set B: 470 730 920 600 740 660 670 810 650 620

50 Your data sets have data set ID #50. Be sure to enter your data set ID in the space provided.

Data Set A: 98 97 106 103 102 100 99 101 103 101

Data Set B: 470 660 730 600 920 740 670 650 810 620

51 Your data sets have data set ID #51. Be sure to enter your data set ID in the space provided.

Data Set A: 100 101 100 105 105 104 106 95 105 97

Data Set B: 620 470 920 670 600 650 810 660 730 740

52 Your data sets have data set ID #52. Be sure to enter your data set ID in the space provided.

Data Set A: 102 105 104 104 100 103 105 104 106 103

Data Set B: 650 810 470 730 670 660 600 620 740 920

53 Your data sets have data set ID #53. Be sure to enter your data set ID in the space provided.

Data Set A: 100 107 107 108 103 104 100 102 101 107

Data Set B: 730 920 620 650 740 600 470 660 810 670

54 Your data sets have data set ID #54. Be sure to enter your data set ID in the space provided.

Data Set A: 101 109 97 105 109 109 97 105 107 105

Data Set B: 600 810 670 470 740 730 650 620 920 660

55 Your data sets have data set ID #55. Be sure to enter your data set ID in the space provided.

Data Set A: 89 93 90 87 93 88 91 91 90 92

Data Set B: 660 600 670 620 470 730 810 740 650 920

56 Your data sets have data set ID #56. Be sure to enter your data set ID in the space provided.

Data Set A: 92 90 88 88 87 89 90 92 91 92

Data Set B: 470 730 810 670 650 620 600 740 920 660

57 Your data sets have data set ID #57. Be sure to enter your data set ID in the space provided.

Data Set A: 88 85 94 93 92 89 89 91 92 97

Data Set B: 650 600 810 920 670 660 740 470 730 620

58 Your data sets have data set ID #58. Be sure to enter your data set ID in the space provided.

Data Set A: 96 92 96 94 89 93 94 93 94 90

Data Set B: 650 470 670 810 730 620 920 660 600 740

59 Your data sets have data set ID #59. Be sure to enter your data set ID in the space provided.

Data Set A: 90 94 94 93 93 91 94 94 95 94

Data Set B: 620 600 740 670 730 650 920 810 660 470

60 Your data sets have data set ID #60. Be sure to enter your data set ID in the space provided.

Data Set A: 95 87 98 89 88 93 85 93 93 98

Data Set B: 670 810 650 920 730 620 470 600 660 740

61 Your data sets have data set ID #61. Be sure to enter your data set ID in the space provided.

Data Set A: 94 96 96 93 97 95 94 97 92 98

Data Set B: 670 920 650 810 660 620 600 740 730 470

62 Your data sets have data set ID #62. Be sure to enter your data set ID in the space provided.

Data Set A: 101 96 91 93 94 98 95 99 97 98

Data Set B: 620 470 810 650 730 920 670 740 660 600

63 Your data sets have data set ID #63. Be sure to enter your data set ID in the space provided.

Data Set A: 95 89 91 97 98 100 99 100 95 90

Data Set B: 650 620 670 920 730 810 470 600 740 660

64 Your data sets have data set ID #64. Be sure to enter your data set ID in the space provided.

Data Set A: 99 98 99 102 99 99 97 100 101 100

Data Set B: 650 740 810 470 920 730 620 660 600 670

65 Your data sets have data set ID #65. Be sure to enter your data set ID in the space provided.

Data Set A: 98 99 100 95 94 95 101 97 102 99

Data Set B: 470 660 600 730 920 810 740 650 620 670

66 Your data sets have data set ID #66. Be sure to enter your data set ID in the space provided.

Data Set A: 105 102 102 102 102 99 94 101 102 108

Data Set B: 670 810 660 920 740 470 600 620 650 730

67 Your data sets have data set ID #67. Be sure to enter your data set ID in the space provided.

Data Set A: 103 99 102 102 101 105 101 103 103 101

Data Set B: 810 470 600 620 740 660 730 650 920 670

68 Your data sets have data set ID #68. Be sure to enter your data set ID in the space provided.

Data Set A: 100 104 100 97 101 102 101 99 105 104

Data Set B: 650 810 660 740 730 470 600 920 620 670

69 Your data sets have data set ID #69. Be sure to enter your data set ID in the space provided.

Data Set A: 101 101 98 108 96 98 97 102 100 104

Data Set B: 620 810 660 600 470 670 740 920 650 730

70 Your data sets have data set ID #70. Be sure to enter your data set ID in the space provided.

Data Set A: 103 106 104 106 103 104 104 104 108 105

Data Set B: 810 740 670 920 660 620 730 470 600 650

71 Your data sets have data set ID #71. Be sure to enter your data set ID in the space provided.

Data Set A: 101 107 101 104 108 108 107 106 104 104

Data Set B: 470 620 810 730 670 650 740 920 600 660

72 Your data sets have data set ID #72. Be sure to enter your data set ID in the space provided.

Data Set A: 104 113 103 104 97 105 119 104 109 99

Data Set B: 600 740 730 470 620 920 810 650 670 660
