**Chapter 1:**

**Section 1.1:**

1.) See solutions

3.) See solutions

5.) See solutions

7.) See solutions

9.) a.) ratio, b.) nominal, c.) interval, d.) ordinal

**Section 1.2:**

1.) a.) Cluster sample, b.) Systematic sample, c.) Convenience sample, d.) Simple random sample, e.) Stratified sample

3.) See solutions

5.) See solutions

7.) See solutions

**Section 1.3:**

1.) Experiment

3.) Observation

5.) No, see solutions

7.) No, see solutions

9.) Yes, see solutions

11.) Yes, see solutions

13.) Double blind, see solutions

15.) Blind, see solutions

17.) Prospective, see solutions

19.) Retrospective, see solutions

21.) See solutions

**Section 1.4:** See solutions

**Chapter 2:** See solutions

**Chapter 3:**

**Section 3.1:**

1.) mean = 253.93, median = 268, mode = none

3.) mean = 67.68 km, median = 64 km, mode = 56 and 64 km

5.) a.) mean = $89,370.42, median = $75,311, b.) mean = $79,196.56, median = $74,773, c.) See solutions, d.) See solutions, e.) See solutions

7.) a.) ordinal- median and mode, b.) ratio – all three, c.) interval – all three, d.) nominal – mode

9.) Skewed right, mean higher

11.) 2.71

13.) 76.75

**Section 3.2:**

1.) mean = 253.93, median = 268, range = 218, variance = 2276.29, st dev = 47.71

3.) a.) mean = 67.68 km, median = 64 km, b.) range = 145 km, c.) variance = 1107.9416 km2, st dev = 33.29 km

5.) mean = $89,370.42, median = $75,311, range = $219,782, variance =2298639399, st dev = $47,944.13

7.) See solutions

9.) , 

11.) a.) , b.) , c.) 

13.) , b.) , c.) 

15.) 3.61

17.) 10.35

**Section 3.3: Note: Q1, Q3, and IQR may differ slightly due to how technology finds them.**

1.) See solutions

3.) See solutions

5.) min = 142, Q1 = 225, med = 268, Q3 = 282, max = 360, IQR = 57, see solutions

7.) min = 32 km, Q1 = 46 km, med = 64 km, Q3 = 77 km, max = 177 km, IQR = 31 km, see solutions

9.) See solutions

11.) See solutions

**Chapter 4:**

**Section 4.1:**

1.) P(blue) = 0.184, P(brow) = 0.142, P(green) = 0.184, P(orange) = 0.208, P(red) = 0.142, P(yellow) = 0.141

3.) P(indigenous person dies) = 0.0058, P(non-indigenous person dies) = 0.0029, see solutions

**Section 4.2:**

1.) a.) P(green or red) = 0.326, b.) P(blue, red, or yellow) = 0.466, c.) P(not brown) = 0.858, d.) P(not green) = 0.816

3.) a.) See solutions, b.) P(2 heads) = 0.375, c.) P(at least 2 heads) = 0.50, d.) P(odd number of heads) = 0.50, e.) P(all heads or all tails) = 0.25, f.) P(two heads or two tails) = 0.75, g.) P(no an odd number of heads) = 0.50

5.) a.) See solutions, b.) P(sum of 3) = 0.056, c.) P(1st die a 4) = 0.167, d.) P(sum of 8) = 0.139, e.) P(sum of 3 or sum of 8) = 0.194, f.) P(sum of 3 or 1st die a 4) = 0.222, g.) P(sum of 8 or 1st die a 4) = 0.278, h.) P(not getting a sum of 8) = 0.861

7.) P(red ball) = 0.625, b.) P(blue ball) = 0.375, c.) 5 to 3, d.) 3 to 5

**Section 4.3:**

1.) Independent, see solutions

3.) Dependent, see solutions

5.) a.) P(Jack/face card) = 0.333, b.) P(heart/card a 3) = 0.25, c.) P(red card/ace) = 0.50, d.) not independent, see solutions, e.) independent, see solutions

7.) 0.0625

9.) 

11.) a.) P(female) = 0.684, b.) P(1st class) = 0.429, c.) P(female/1st class) = 0.694, d.) P(female and 1st class) = 0.298, e.) P(female or 1st class) = 0.816, f.) No, see solutions, g.) Dependent, see solutions

**Section 4.4:**

1.) 30 meals

3.) 120 shirts

5.) 3024

7.) 252

9.) 1320

11.) 10

**Chapter 5:**

**Section 5.1:**

1.) a.) See solutions, b.) See solutions, c.) 4.175 days, d.) 8.414375 days2, e.) 2.901 days, f.) 0.004, g) See solutions, h.) See solutions

3.) -$0.75

**Section 5.2:**

1.) a.) P(x=5) = 0.0212, b.) P(x=8) = , c.) P(x=12) = , d.) , e.) , f.) 

3.) a.) , b.) , c.) , d.) , e.) , f.) 

5.) a.) , b.) , c.) , d.) , e.) , f.) 

7.) a.) See solutions, b.) See solutions, c.) P(x=0) = 0.2059, d.) , e.), f.) , g.) , h.) See solutions

9.) a.) See solutions, b.) See solutions, c.) , d.) , e.) , f.) , g.) , h.) See solutions

**Section 5.3:**

1.) a.) See solutions, b.) See solutions, c.) Skewed right, d.) 0.78, e.) 0.6786, f.) 0.8238

3.) a.) See solutions, b.) See solutions, c.) Symmetric, d.) 3.5, e.) 1.75, f.) 1.3229

5.) a.) See solutions, b.) See solutions, c.) See solutions, d.) Skewed right, e.) 2.88, f.) 2.1888, g.) 1.479

7.) a.) See solutions, b.) 7.28, c.) 6.2608, d.) 2.502

**Chapter 6:**

**Section 6.1:**

1.) a.) See solutions, b.) , c.) , d.) 

**Section 6.3:**

1.) a.) , b.) , c.) , d.) 

3.) a.) -0.6667, b.) -2.6667, c.) -2, d.) 6.6667

5.) a.) See solutions, b.) , c.) , d.) , e.) See solutions, f.) 53.8 cm

7.) a.) See solutions, b.) c.) , d.)  or  , e.) See solutions, f.) 110.2 g

9.) a.) See solutions, b.) , c.) , d.)

, e.) See solutions, f.) $73,112

**Section 6.4:**

1.) Normally distributed

3.) Normally distributed

Section 6.5:

1.) a.) See solutions, b.) , , c.) See solutions, d.) , 

3.) a.) See solutions, b.) , c.) , d.) See solutions, e.) , f.) , g.) See solutions

5.) a.) See solutions, b.) , c.) , d.) See solutions, e.) f.) , g.) See solutions

7.) a.) See solutions, b.) , c.)  or , d.) See solutions

**Chapter 7:**

**Section 7.1:**

1.) 

3.) 

5.) See solutions

7.) See solutions

**Section 7.2:**

For all hypothesis tests, just the conclusion is given. See solutions for the entire answer.

1.) Reject Ho.

3.) Reject Ho.

5.) Reject Ho.

**Section 7.3:**

For all hypothesis tests, just the conclusion is given. See solutions for the entire answer.

1.) Fail to reject Ho.

3.) Fail to reject Ho.

5.) Fail to reject Ho.

7.) Reject Ho.

**Chapter 8:**

**Section 8.1:**

1.) Narrower

3.) Narrower

5.) See solutions

7.) See solutions

**Section 8.2:**

For all confidence intervals, just the interval using technology is given. See solution for the entire answer.

1.) 

3.) 

5.) 

**Section 8.3:**

For all confidence intervals, just the interval using technology is given. See solution for the entire answer.

1.) 

3.) 

5.) 

7.) 

**Chapter 9:**

Answers to all problems are given.

**Section 9.1:**

For all hypothesis tests, just the conclusion is given. For all confidence intervals, just the interval using technology (Software R) is given. See solution for the entire answer.

1.) Reject Ho

2.) 

3.) Reject Ho

4.) 

5.) Fail to reject Ho

6.) 

7.) Reject Ho

8.) 

**Section 9.2:**

For all hypothesis tests, just the conclusion is given. For all confidence intervals, just the interval using technology is given. See solution for the entire answer.

1.) Reject Ho

2.) 

3.) Fail to reject Ho

4.) 

5.) Reject Ho

6.) 

7.) Reject Ho

8.) 

9.) Fail to reject Ho

10.) 

11.) Reject Ho

12.) 

**Section 9.3:**

For all hypothesis tests, just the conclusion is given. For all confidence intervals, just the interval using technology is given. See solution for the entire answer.

1.) Reject Ho

2.) 

3.) Fail to reject Ho

4.) 

5.) Reject Ho

6.) 

7.) Reject Ho

8.) 

9.) Fail to reject Ho

10.) 

11.) Reject Ho

12.) 

13.) Reject Ho

14.) 

15.) Fail to reject Ho

16.) 

**Chapter 10:**

**Section 10.1:**

For regression, only the equation is given. See solutions for the entire answer.

1.) 

3.) 

5.) 

7.) 

9.) 

**Section 10.2:**

Only the correlation coefficient and coefficient of determination are given. See solutions for the entire answer.

1.) *r* = 0.9578, *r2* = 0.7357

3.) *r* = -0.9313, *r2* = 0.8674

5.) *r* = 0.6605 *r2* = 0.4362

7.) *r* = 0.8871, *r2* = 0.7869

9.) *r* = 0.7036, *r2* = 0.4951

11.) No, see solutions.

13.) No, see solutions.

**Section 10.3:**

For hypothesis test just the conclusion is given. See solutions for entire answer.

1.) a.) Reject Ho, b.) , c.) 

3.) a.) Reject Ho, b.) , c.) 

5.) a.) Reject Ho, b.) , c.) 

7.) a.) Reject Ho, b.) , c.) 

9.) a.) Reject Ho, b.) , c.)

**Chapter 11:**

**Section 11.1:**

For all hypothesis tests, just the conclusion is given. See solutions for the entire answer.

1.) Reject Ho

3.) Reject Ho

5.) Reject Ho

7.) Reject Ho

**Section 11.2:**

For all hypothesis tests, just the conclusion is given. See solutions for the entire answer.

1.) Reject Ho

3.) Reject Ho

5.) Reject Ho

**Section 11.3:**

For all hypothesis tests, just the conclusion is given. See solutions for the entire answer.

1.) Reject Ho

3.) Reject Ho

5.) Fail to reject Ho