MATH 1342

Homework 8 (Chapter 8)

Instructions: Answer all questions through the EMCF tab of casa under the assignment named "Homework 8" before the deadline.

There is no "Submit" button. Your answers will be automatically submitted once the deadline arrives.

Assignments will be graded out of 10 points.

1. Section 8.1; Problem 8: (Null and Alternate Hypothesis, Rejection Region)

   A. H_o: $\mu = 120$; H_a: $\mu < 120$; Rejection Region: $z < -1.64$

   B. H_o: $\mu = 120$; H_a: $\mu < 120$; Rejection Region: $t < -1.80$

   C. H_o: $\mu = 120$; H_a: $\mu > 120$; Rejection Region: $z > 1.64$

   D. H_o: $\mu = 120$; H_a: $\mu \neq 120$; Rejection Region: $z < -1.96$ or $z > 1.96$

   E. H_o: $\mu = 120$; H_a: $\mu \neq 120$; Rejection Region: $t < -2.20$ or $t > 2.20$

2. Section 8.1; Problem 8: (p-value and conclusion)

   A. $p = 1.856$; FRH_o (No sufficient evidence to reject the claim)

   B. $p = 0.144$; RH_o (Sufficient evidence exists to reject the claim)

   C. $p = 0.928$; FRH_o (No sufficient evidence to reject the claim)

   D. $p = 1.856$; RH_o (Sufficient evidence exists to reject the claim)

   E. $p = 0.144$; FRH_o (No sufficient evidence to reject the claim)

3. Section 8.1; Problem 14: (Null and Alternate Hypothesis, Rejection Region)

   A. H_o: $\mu = 0$; H_a: $\mu < 0$; Rejection Region: $z < -2.34$

   B. H_o: $\mu_D = 0$; H_a: $\mu_D < 0$; Rejection Region: $t < -2.57$

   C. H_o: $\mu = 0$; H_a: $\mu > 0$; Rejection Region: $z > 2.34$

   D. H_o: $\mu_D = 0$; H_a: $\mu_D \neq 0$; Rejection Region: $z < -2.58$ or $z > 2.58$

   E. H_o: $\mu_D = 0$; H_a: $\mu_D \neq 0$; Rejection Region: $t < -2.90$ or $t > 2.90$

4. Section 8.1; Problem 14: (p-value and conclusion)

   A. $p = 0.026$; FRH$_o$ (No sufficient evidence to reject the claim)

   B. $p = 0.038$; RH$_o$ (Sufficient evidence exists to reject the claim)

   C. $p = 0.038$; FRH$_o$ (No sufficient evidence to reject the claim)

   D. $p = 0.016$; RH$_o$ (Sufficient evidence exists to reject the claim)

   E. $p = 0.016$; FRH$_o$ (No sufficient evidence to reject the claim)

5. Section 8.2; Problem 2: (Null and Alternate Hypothesis, Rejection Region)

   A. H$_o$: $p = 0.90$; H$_a$: $p < 0.90$; Rejection Region: $z < -2.576$

   B. H$_o$: $p = 0.90$; H$_a$: $p < 0.90$; Rejection Region: $z < -2.326$

   C. H$_o$: $p = 0.90$; H$_a$: $p > 0.90$; Rejection Region: $z > 2.326$

   D. H$_o$: $p = 0.90$; H$_a$: $p > 0.90$; Rejection Region: $z > 1.960$

   E. H$_o$: $p = 0.90$; H$_a$: $p \neq 0.90$; Rejection Region: $z < -2.576$ or $z > 2.576$

6. Section 8.2; Problem 2: (Test Statistic and conclusion)

   A. $z = 0.333$; FRH$_o$ (No sufficient evidence to reject the claim)

   B. $z = 0.351$; RH$_o$ (Sufficient evidence exists to reject the claim)

   C. $z = 0.333$; RH$_o$ (Sufficient evidence exists to reject the claim)

   D. $z = 0.351$; FRH$_o$ (No sufficient evidence to reject the claim)

   E. $z = 0.00033$; RH$_o$ (Sufficient evidence exists to reject the claim)

7. Section 8.5; Problem 2 (Test Statistic)

    A. $\chi^2 = 0.036$

    B. $\chi^2 = 315.36$

    C. $\chi^2 = 0.355$

    D. $\chi^2 = 1101.94$

    E. $\chi^2 = 0.6322$

8. Section 8.5; Problem 2 (p-value, conclusion)

    A. $p = 0.9965$; RH_o (Observed Values do not match Expectation)

    B. $p = 0.9860$; FRH_o (Observed Values match Expectation)

    C. $p = 0.9965$; FRH_o (Observed Values match Expectation)

    D. $p = 0.9860$; RH_o (Observed Values do not match Expectation)

    E. $p = 0.0035$; RH_o (Observed Values do not match Expectation)

9. Section 8.6; Problem 2 (Test Statistic)

    A. $\chi^2 = 1.976$ B. $\chi^2 = 1.849$ C. $\chi^2 = 0.769$

                D. $\chi^2 = 1.641$ E. $\chi^2 = 0.683$

10. Section 8.6; Problem 2 (p-value; conclusion)

    A. $p = 0.2002$; RH_o (Observed Values do not match Expectation)

    B. $p = 0.1958$; FRH_o (Observed Values match Expectation)

    C. $p = 0.2002$; FRH_o (Observed Values match Expectation)

    D. $p = 0.1958$; RH_o (Observed Values do not match Expectation)

    E. $p = 0.3723$; RH_o (Observed Values do not match Expectation)