

Hypothesis Test for the PMCC

Writing Hypotheses - Solutions

1. What would the hypotheses be for an investigation into the claim that the PMCC between two variables is negative?

☒ $H_0: \rho = 0$
☐ $H_0: \rho \neq 0$
☐ $H_0: \rho > 0$
☐ $H_0: \rho < 0$
☐ $H_1: \rho = 0$
☐ $H_1: \rho \neq 0$
☐ $H_1: \rho > 0$
☒ $H_1: \rho < 0$

2. What would the hypotheses be for an investigation into the claim that there is no correlation between two variables?

☒ $H_0: \rho = 0$
☐ $H_0: \rho \neq 0$
☐ $H_0: \rho > 0$
☐ $H_0: \rho < 0$
☐ $H_1: \rho = 0$
☒ $H_1: \rho \neq 0$
☐ $H_1: \rho > 0$
☐ $H_1: \rho < 0$

3. What would the hypotheses be for an investigation into the claim that the PMCC between two variables is -0.802?

☒ $H_0: \rho = 0$
☐ $H_0: \rho \neq 0$
☐ $H_0: \rho > 0$
☐ $H_0: \rho < 0$
☐ $H_1: \rho = 0$
☐ $H_1: \rho \neq 0$
☐ $H_1: \rho > 0$
☒ $H_1: \rho < 0$

4. What would the hypotheses be for an investigation into the claim that the PMCC between two variables is 0?

☒ $H_0: \rho = 0$
☐ $H_0: \rho \neq 0$
☐ $H_0: \rho > 0$
☐ $H_0: \rho < 0$
☐ $H_1: \rho = 0$
☒ $H_1: \rho \neq 0$
☐ $H_1: \rho > 0$
☐ $H_1: \rho < 0$

5. What would the hypotheses be for an investigation into the claim that the PMCC between two variables is 0.753?

☒ $H_0: \rho = 0$
☐ $H_0: \rho \neq 0$
☐ $H_0: \rho > 0$
☐ $H_0: \rho < 0$
☐ $H_1: \rho = 0$
☐ $H_1: \rho \neq 0$
☒ $H_1: \rho > 0$
☐ $H_1: \rho < 0$

6. What would the hypotheses be for an investigation into the claim that the value of the PMCC between the top speed of a car and the its depreciation value is -0.362?

☒ $H_0: \rho = 0$
☐ $H_0: \rho \neq 0$
☐ $H_0: \rho > 0$
☐ $H_0: \rho < 0$
☐ $H_1: \rho = 0$
☐ $H_1: \rho \neq 0$
☐ $H_1: \rho > 0$
☒ $H_1: \rho < 0$

7. What would the hypotheses be for an investigation into the claim that there is a no correlation between the show size of candidates and their test score on an entry assessment.

☒ $H_0: \rho = 0$
☐ $H_0: \rho \neq 0$
☐ $H_0: \rho > 0$
☐ $H_0: \rho < 0$
☐ $H_1: \rho = 0$
☒ $H_1: \rho \neq 0$
☐ $H_1: \rho > 0$
☐ $H_1: \rho < 0$

8. An investigation into the relationship between the number of goals scored by a player in the world cup and their number of minutes on the pitch is calculated to have a PMCC of 0.516. What would the hypotheses be for test to check this value?

☒ $H_0: \rho = 0$
☐ $H_0: \rho \neq 0$
☐ $H_0: \rho > 0$
☐ $H_0: \rho < 0$
☐ $H_1: \rho = 0$
☒ $H_1: \rho \neq 0$
☐ $H_1: \rho > 0$
☐ $H_1: \rho < 0$