**Choosing statistical tests-revision**

**Question five**

A psychologist is investigating the effect of depression on general health. He collects data on how many colds a sample of people diagnosed with depression caught in one winter, and the number of colds a group of people who did not show symptoms of depression caught in the same winter.

What statistical test should the researcher use? Justify your answer (4 marks)

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**Question six**

A researcher wants to know if IQ is related to age in years.

What statistical test should the researcher use? Justify your answer (4 marks)

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**Question seven**

A scientist wanted to know whether rats performed better in a memory test when they were tested in low light conditions than when they were tested in high light conditions. He tested 8 rats, each under both low and high light conditions.

What statistical test should the researcher use? Justify your answer (4 marks)



**Question eight**

A psychologist was investigating how the temperature of a room influences people’s reaction times. She collected the data shown in the table.

|  |  |  |
| --- | --- | --- |
| **Participant** | **Temperature in room (Celsius)** | **Reaction time (seconds)**  What statistical test should the researcher use? Justify your answer (4 marks) |
| 1 | 32 | 5.26 |
| 2 | 38 | 3.47 |
| 3 | 20 | 8.53 |
| 4 | 18 | 9.45 |
| 5 | 25 | 6.12 |

**Answers**

Question 5-unrelated t-test because unrelated data (colds in winter with depression compared to colds with no depression) but looking for a difference between these two groups and interval data (number of colds)

Question 6-Spearmans rho- test of correlation (link between IQ and age), IQ is at least ordinal.

Qu7-Wilcoxon

Difference, ordinal (memory test), repeated measures

Qu8-Pearson’s r

Correlation, interval, related data