

1.8: Sample Problems and Solutions

? Exercise 1.8.1

Your friend Martin loves to explore “conspiracy theories”. His favourite theory involves “Chem Trails”. He tells you that the government is secretly using airliners to spread chemicals in the atmosphere for some unknown reason.

- a. Think of 2 ways in which you could objectively test Martin’s theory.
- b. After proposing your experiment to Martin, he claims that his theory cannot be invalidated by any experiment, no matter how scientifically rigorous the experiment is. Is Martin correct?

Answer

- a. You could do an investigation to see if the government is spreading chemicals, and try to find out why. You could make measurements of the contents in the atmosphere before and after an airline passes to see if any unexpected chemicals show up.
- b. No he is not, as you just proposed two experiments that could invalidate his theory.

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