

Week 6 — Confounding and multivariable thinking:

Wednesday exit ticket

Week 6 – Wednesday exit ticket

Name: _____

Date: _____

Instructions

Work through each item below. Write your final response in the space provided. Show enough work that another reader can follow your reasoning.

1. Two airlines (Alaska and America West) flew between the same five cities. Their **overall** on-time arrival rates were:

- Alaska Airlines: 87% on time overall - America West: 89% on time overall

But broken down by **destination city**, the on-time rates looked like this:

City	Alaska on-time	America West on-time
Los Angeles	89%	88%
Phoenix	94%	92%
San Diego	91%	85%
San Francisco	83%	71%
Seattle	86%	77%

- (a) Looking at the *overall* numbers alone, which airline appears more on-time?
- (b) Looking at the *city-by-city* numbers, which airline is more on-time in every city?
- (c) Your two answers from (a) and (b) point in opposite directions. What is this pattern called?
- (d) Suggest a single reason — something about how Alaska's and America West's flights are *distributed across* the five cities — that could produce the reversal in (a) vs (b).