

Week 5 — Association: Wednesday exit ticket

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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. A clinic plotted two scatterplots for 500 adults.

Plot A has height (cm) on the x-axis and weight (kg) on the y-axis. The cloud trends upward fairly tightly; taller adults tend to be heavier.

Plot B has height (cm) on the x-axis and body mass index ($\text{BMI} = \text{weight in kg divided by height in metres squared}$) on the y-axis. The cloud has no obvious up-or-down trend; the range of BMI values is roughly the same across all heights.

- (a) Describe the association in Plot A in one or two sentences. Name the direction, comment on the form, and comment on the strength.
- (b) Describe the association in Plot B. Why does the association look so different from Plot A even though the same people are plotted?
- (c) The clinic claims: 'BMI is a better measure of relative weight than raw weight, because BMI is not associated with height in this sample.' Is this claim consistent with the scatters? Explain in one sentence.