Homework 2 Answers
EPI 525

These are the **some** numeric/short answers to the homework. Often, these answers are insufficient for your own work or solutions. I just wanted to give you a part of the answer to help guide you in the right direction.

Book exercises

1.24 Income and education in US counties

1.28 Mix-and-match

1.36 Associations

1.38 Smoking and stenosis

See Section1.6.2 for more on how the relative risk is calculated.

2.6 Poverty and language

Part (b) asks you to create a Venn Diagram. If you are submitting this question in R, you do not need to turn this part in. If you want an R challenge though, you can use the `VennDiagram` or other package to create one. See https://www.geeksforgeeks.org/how-to-create-a-venn-diagram-in-r/ for some examples.

2.8 School absences

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2.10 Health coverage, frequencies

2.14 Health coverage, relative frequencies

2.18 Predisposition for thrombosis

2.24 Breast cancer and age

Non-book exercise

Suppose a patient has abdominal pain and their clinician suspects that they either have disease 1, disease 2, or no disease, where the probability of having abdominal pain if they have disease 1 is 0.80, the probability of having abdominal pain if they have disease 2 is 0.90, and the probability of having abdominal pain if they have no disease is 0.01. Based on the patient's medical history, the probability of having disease 1 is 0.009, having disease 2 is 0.001, and having no disease is 0.99. What is the probability the patient has disease 2 given that they have abdominal pain?