

Name: _____
DATA 420 — Spring 2024
Reading check #8: Silver chapter 5
Feb. 20, 2024

1. True or false: despite seeming like the rarer phenomenon, earthquakes actually kill more people than hurricanes do. _____
2. True or false: forecasting earthquakes is waaaaaay easier than predicting earthquakes. _____
3. If you compare how often earthquakes of various magnitudes occur worldwide, what relationship will you find?
4. What kind of statistical distribution has the highly useful property that you can estimate the number of large-scale events from the number of small-scale ones, or vice versa?
5. Fill in the blanks: In systems with noisy data and underdeveloped theory – like earthquake science and much of economics and political science – people start to mistake the _____ for a _____.
6. Suppose we compare a magnitude-7.0 earthquake (on the moment magnitude scale, not the Richter), compared to a magnitude-5.0 earthquake. Which is true?
 - The 7.0 quake is many hundreds of times more powerful than the 5.0 quake
 - The 7.0 quake is four times as powerful as the 5.0 quake
 - The 7.0 quake is twice as powerful as the 5.0 quake
 - The 7.0 quake has about the same power as the 5.0 quake
 - The 7.0 quake is half as powerful as the 5.0 quake
 - The 7.0 quake is one-fourth as powerful as the 5.0 quake
 - The 7.0 quake is many hundreds of times less powerful than the 5.0 quake
7. What makes a model “overfit,” and what problem does that cause?