

Name: \_\_\_\_\_

*This quiz totals 20 points. The quiz is open-note, but not open-neighbor. Relax and try to do the best you can.*

1. (5 points) Explain the difference between a continuous and discrete variable. From a modeling standpoint, why do we care about this difference?
  
  
  
  
  
  
  
  
  
  
2. (5 points) Explain the difference between Missing Completely At Random (MCAR), Missing At Random (MAR), and Missing Not At Random (MNAR). Which case will result in imputed values that are most plausible?
  
  
  
  
  
  
  
  
  
  
3. (5 points) What is the most common use of the word “optimization” in Data Science? Why is optimization important?
  
  
  
  
  
  
  
  
  
  
4. (5 points) Explain what a closed-form solution is. What fraction of objective functions in data science have a closed-form solution?

