

Class Exercise 7

Instructions

- Deadline: **Monday, April 20 (5:30 pm)**
- Please show all of your work on your submission. Notation counts. Poor notation will result in a loss of marks.
- Please leave your answers as exact values. If using decimals, please report your answer to four decimal places.
- You are encouraged to ask your instructor for help, and/or discuss ideas with your classmates. However, you must produce fully explained individual solutions.
- Under no circumstances may you simply copy solutions obtained online or from a classmate. In unclear cases, you may be asked to explain your solutions in a Teams meeting, and your work may be refused altogether.

1. **Swiping for Success**

It is becoming strangely common for people to use Tinder to look for work and LinkedIn to look for romance. In a recent poll, 10% of adults said they would consider using Tinder for job searching, while 14% said they would consider using LinkedIn to meet a potential date. The same poll found that 70% of adults would use neither platform in this way. In the next twelve adults that you encounter, what is the probability that

- (a) three or four of them would use Tinder to look for work?
- (b) at most three of them would use LinkedIn to look for a date?
- (c) more than nine of them would use neither platform in this way?
- (d) five or eight of them would find the idea of using Tinder for work completely unacceptable?

2. **Fruit or Art?**

In Scotland, a group of students visited a modern art gallery and placed a pineapple in an empty exhibit space to see whether visitors would mistake it for a work of art. When they returned four days later, they discovered that not only was the pineapple still there, it had even been placed under a glass display case. The height of a mature pineapple is normally distributed with a mean of 30 cm and a standard deviation of 4 cm.

- (a) What is the probability that a randomly selected pineapple is at less than 23 cm?

- (b) What is the probability that a randomly selected pineapple is between 19 cm and 37 cm?
- (c) 5% of pineapple are smaller than how many centimetres?
- (d) At a store there are seven pineapples. What is the probability that four or five of them are larger than 29 cm?