STA220H1 Additional Problems for Probability: Random Variables

1. In a certain population of freshwater fish, the distribution of the number of tail vertebrae is shown in the table below.

No. of vertebrae	Percent of fish
20	3
21	51
22	40
23	6
Total	100

   (a) Find the expected value of the number of tail vertebrae.

   (b) Find the standard deviation of the number of tail vertebrae.

   (c) Suppose you have a sample of 3 independently and randomly chosen fish. Find the expected value and standard deviation of the average number of tail vertebrae in these three fish.

2. The figure below shows a probability density function for a continuous random variable, X.

