Part 1. Multiple choice questions,

(1 point) What is a statistic?

Part 2. Calculation questions

Answer the question in full details.

(2 points) [   ] On a given day, of all surveyed teenagers in a high school, 60% used WhatsApp, 90% used Facebook, and 55% used both WhatsApp and Facebook.

a. If a randomly selected teenager is known to have used Facebook, what is the probability that she or he also used WhatsApp?

(3 points) [**The weight of a salmon is normally distributed, with a mean of 1.8 kg and a standard deviation of 0.2 kg.**

a. What percentage of salmon weigh more than 2 kg?
b. What percentage of salmon weighs less than 1.5 kg?
c. Find the value b such that 11.5% of salmon weigh less than b kg.

(3 points) **Suppose a random sample of 25 students is selected from a community college where the scores on the final exam (out of 125 points) are normally distributed having mean equal to 112 and standard deviation equal to 12.**

a. Find the mean and the standard deviation of the sampling distribution of the sample mean x.
b. Find the probability that x exceeds 116.
c. Find the probability that the sample mean deviates from the population mean x = 112 by no more than 4.

(2 points) An airline executive estimates that 25% of all flights arrive late. How many flights must we include in a simple random sample if we want to be 90% confident that the true population proportion of flights that arrive late lies within 0.01 of our sample proportion? Justify your conclusion.

.(5 points) [**] The proportion of individuals with an Rh positive blood type is 88%. You have a random sample of n = 500 individuals.**

a. What are the mean and standard deviation of p, the sample proportion with Rh positive blood type?
b. Is the distribution of p approximately normal? Justify your answer.
c. What is the probability that the sample proportion p exceeds 85%
d. What is the probability that the sample proportion p lies between 86% and 91%?
e. Between which two limits would the sample proportion p lie 99% of the time?

(4 points) **The length of duration, in minutes, of earthquakes in British Columbia has been recorded for future analysis and information. The length of duration of a random sample of six earthquakes is as follows: 1.1, 0.9, 1.5, 0.7, 1.41, 0.9** mean; m - SD ″, m Mil