

I. A RANDOM SAMPLE OF 52 ANTIBIOTICS CAPSULES PRODUCED A MEAN POTENCY OF 90.9 WITH STANDARD DEVIATION OF 3.8. USE THESE DATA TO CONSTRUCT

A. A 99% CONFIDENCE INTERVAL

B. A 90 PERCENT CONFIDENCE INTERVAL

II. HOSPITAL RECORDS SHOW THAT FOR A SAMPLE OF 49 WOMEN EVALUATED DURING A CERTAIN WEEK THE SAMPLE MEAN WAS 54.6 AND STANDARD DEVIATION WAS 8.2. USE THESE DATA TO CONSTRUCT A 95% CONFIDENCE INTERVAL.

III. A GUNPOWDER MANUFACTURER HAS DEVELOPED A NEW GUNPOWDER. A SAMPLE OF 8 SHELLS WERE TESTED AND PRODUCED AN AVERAGE MUZZLE VELOCITY OF 2958.75 FT/SEC WITH STANDARD DEVIATION OF 39.26 FT/SEC. ASSUMING THE DISTRIBUTION OF MUZZLE VELOCITIES IS NORMALLY DISTRIBUTED, USE THESE DATA TO CONSTRUCT A 90% CONFIDENCE INTERVAL FOR THE MEAN MUZZLE VELOCITY.

IIII. A RESEARCHER IS USING AN EXPERIMENTAL METHOD TO INCREASE THE BITE STRENGTH OF BELGIAN SHEPHERD GUARD DOGS. MEASURING THE SPEED AT WHICH THE DOGS' TEETH ENGAGE A BITE, A SAMPLE OF 15 DOGS GAVE AN AVERAGE OF 186 UNITS AND STANDARD DEVIATION OF 4.3 UNITS. ASSUMING THE DISTRIBUTION OF MUZZLE VELOCITIES IS NORMALLY DISTRIBUTED; USE THESE DATA TO CONSTRUCT A 95% CONFIDENCE INTERVAL FOR THE MEAN MUZZLE VELOCITY.

NOTE THAT THERE WILL ALSO BE A SET OF MULTIPLE CHOICE ITEMS INVOLVING TERMINOLOGY, PROCEDURES, ETC.