Test 1 Extra Credit

Name: ______________

All problems are taken from the textbook: Elementary Statistics, 11th Edition [Mario F. Triola]

Each question is pass/fail (no partial credit) and worth ½ a point each (5 ½ possible).

For each question:
1. Write what know (i.e. write the conditions and parameters you are given)
2. Write what you need (i.e. specify what parameter or formula you have to find)
3. Draw a picture (if applicable)
4. Write the formulas you use, specify the values of their parameters.
5. When you use StatCrunch, specify what function and parameters you used.
6. Write your final answer as it would be in a word problem (don’t just write a number)

The following is an example of a problem that would receive full credit. Your work does not have to look exactly like it, but it must satisfy all the conditions listed above.

(From page 272)

IQ Scores. In exercises 13-20, assume that adults have IQ scores that are normally distributed with a mean of 100 and a standard deviation of 15 (as on the Wechsler test). (Hint Draw a graph in each case).

13. Find the probability that a randomly selected adult has an IQ that is less than 115

What we know:
- Normal distribution
- $\mu = 100$
- $\sigma = 15$

What we need:
- $P(X < 115)$

z-score: $z = \frac{X - \mu}{\sigma} = \frac{115 - 100}{15} = 1$

$P(z < 1) = 0.8413448 \quad \text{From StatCrunch, Normal Calculator: Mean}=0, \text{ Std.Dev}=1, \ P(X\leq1)$

$P(X < 115) = P(z < 1) = 0.8413$

$P(X < 115) = 0.8413$

Thus, the probability of a randomly selected adult having an IQ less than 115 is 0.8413
Chapter 3

Problem 18  (page 95)
Problem 18  (page 111)
Problem 13  (page 127)

Chapter 4

Problem 31  (page 158)
Problem 18  (page 169)

Chapter 5

Problem 14  (page 215)
Problems 26  (page 226)
Problems 12  (page 232)

Chapter 6

Problems 21  (pages 273)
Problems 14  (page 297)
Problems 21  (pages 307)