University of Arkansas

Statistical Methods 2019-10-08 **Problem Set 1-1**

Name: _____

Signature: _____

1. (a) ☐ (b) ☐ (c) ☐ (d) ☐ (e) ☐
2. (a) ☐ (b) ☐ (c) ☐ (d) ☐ (e) ☐
3. (a) ☐ (b) ☐ (c) ☐ (d) ☐ (e) ☐
4. ☐☐☐☐☐☐ . ☐☐☐

1. Which of these are places in Arkansas?
   (a) Hawksbill Crag
   (b) Lazy River
   (c) Whitaker Point
   (d) Blue Mountain
   (e) Flat-top Mountain
2. Which of the following R functions allows you a quick, overview of the data? Make sure you select all that apply.
   (a) modify()
   (b) str()
   (c) summary()
   (d) c()
   (e) simulate()
3. The following are two vectors

```
x
```

```
## [1] 2 4 6 8
```

```
y
```

```
## [1] 1 2 3 4
```

   What is the code that generates the following output?

```
## [1]  3  6  9 12
```

   (a) x / y
   (b) x + y
   (c) x * y
   (d) x - y
   (e) 2 * x * y
4. 21 University of Arkansas pre-law students are taking the LSAT exam (the standardized exam for entry into law school) where the average LSAT score in the United States is 139 with a standard devation of 5. To be a top-ranked institution, the average student score must be in the in the top 99% of classes. What average score is needed for the University to be a top ranked school?

   Below is R code for the problem that can be used to solve the problem.

```
qnorm(0.8, 0, 1)
```

```
## 0.842
```

```
pnorm(139, 99, 5)
```

```
## 1.000
```

```
qnorm(0.99, 0, 1)
```

```
## 2.326
```

```
pnorm(99, 139, 5)
```

```
## 0.000
```