Probability and Statistics Period B
Ms. Gladstone

Investigative Task #5
Alligator Size

Assigned: 12/7/18 **Due: 12/12/18**

Alligators

Scientists collect information on many kinds of wildlife, and for a variety of reasons. Through their research they learn about the animals' habits, populations, and locations. Such information can help them learn more about the animals, protect endangered species, detect changes that may signal environmental problems, or keep track of animals that may present risks to humans.

In central Florida, where alligators and humans live in close proximity, it is important to track the locations and sizes of alligators. The animals may be spotted from the air, from a boat, or on land. Wildlife experts can accurately estimate the alligator's length, but they usually want to know the animal's weight as well. That's a little harder to determine, unless you'd like to be the one who picks the gator up to step on the scale…

To develop a way to estimate the weight of an alligator, the wildlife researchers measured the lengths and weights of several captured alligators. Then they used those data to develop a model enabling them to estimate an alligator's weight from its length – something they can guess from a safe distance! Officials hope to use this model to identify alligators that should be relocated because they have grown so large as to pose a threat to humans.

- Create the linear model for their data.
- Discuss the accuracy of that model.
- Try again: create a stronger predictive model.
- Explain why your new model is better.
- Assess how well your model would work for these wildlife scientists.

Weight (pounds)	Length (inches)
83	86
70	88
61	72
54	74
44	61
106	90
84	89
39	68
42	76
197	114
102	90
57	78
130	94
51	74
640	147
28	58
80	86
110	94
33	63
90	86
36	69
38	72
366	128
84	85
80	82

You may discuss your work with others in the class and compare calculations as you go, but EACH STUDENT MUST TURN IN THEIR OWN REPORT.