Name _____   Date _____

Making Inferences From Random Data - Guided Lesson Explanation

Explanation#1

Step 1) the ratio of marked alligators to total alligators should be about the same in both the sample population and the overall population.

Step 2) Set up a proportion.

$$\frac{\text{number of marked Alligator counted}}{\text{total number of Alligator counted}} = \frac{\text{total number of marked Alligator}}{\text{estimate of Alligator population}}$$

Plug in the numbers you know and solve for the Alligator population, *p*.

$$\frac{50}{260} = \frac{58}{p}$$

50p = 58 x 260   Find the cross products

50p = 15,080   Divide both sides by 50

p = 301.6 (approx)

The best estimate for the Alligator population is 302 (rounded).

Explanation#2

1. Most employees prefer Corn Dogs.
 2. More people prefer Corn Dogs and Philly Cheese Steaks and Reuben Sandwich combined.
3. Reuben sandwiches are not very popular.

 There are many more.

Name _____   Date _____

Explanation#3

Step 1) The ratio of marked animals to total animals should be about the same in both the sample population and the overall population.

Step 2) Set up a proportion.

$$\frac{\text{number of marked animals counted}}{\text{total number of animals counted}} = \frac{\text{total number of marked animals}}{\text{estimate of animal population}}$$

Plug in the numbers you know and solve for the animal population, *p*.

$$\frac{28}{440} = \frac{32}{p}$$

28p = 32 x 440   Find the cross product

28p = 14,080   Divide both sides by 28

P   = 502.9

The best estimate for the animal population is 503 (rounded).