Name _____ Date _____

Making Inferences from Random Data - Step-by-Step Lesson

Lesson 1 Data Problem:

John has to complete a research project on the ape population in Spain. He is trying to estimate the size and population of apes. He randomly catches 37 apes and marks them with paint. He releases the apes into jungle. The following year he observes 250 apes and he found that 10 were marked with the paint that he used.

Find out the best estimate for the size of the ape population?

Explanation:

The ratio of marked apes to total apes should be about the same in both the sample population and the overall population.

Set up a proportion.

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

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

$$\frac{10}{250} = \frac{37}{p}$$

10p = 37 x 250 (find the cross products)

10p = 9,250 divide both sides by 10.

P = 925 (approx)

The best estimate for the ape population is 925.