



AJMaths

GCSE Maths Capture Recapture

Name:

Class:

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Q1.)

Lauren wants to find an estimate for the number of fish in a lake.

She catches 40 fish from the lake and marks each one with a distinctive dye.

Lauren then returns the fish to the lake.

A week later, Lauren returns to the lake and takes another sample of 40 fish from the lake.

5 of these fish are marked with the distinctive dye.

Work out an estimate for the number of fish in the lake.

Show your working clearly and make clear any assumptions you have made.

Q2.)

Kylian is trying to estimate the deer population in a forest.

He captures 36 deer's and leaves a collar on to identify the captured deer. Kylian then returns the deer to the forest.

The next day Kylian returns and captures a second sample of 50 deer of which 38 did not have a collar.

Estimate the deer population for the forest.

Q3.)

Adam captures 42 rabbits from his local woodland and marks them by placing a tag on the rabbit. Adam then returns the rabbits to the woodland.

Adam returns a week later and takes a second sample of 80 rabbits and finds that 4 of the rabbits have a tag.

Estimate the size of the population of rabbits in the woodland.

Q4.)

Gemma wants to estimate the number of bees in a beehive.

Gemma catches 280 bees, safely marks these bees and returns them to the beehive.

The next day Gemma returns and catches 300 bees of which 24 are marked.

Estimate the total number of bees in the beehive.

Q5.)

Alex tracks the population of Crabs on a beach. He takes a sample on Monday and marks all Crabs that he finds.

He records a second sample on Tuesday and records his findings in the table below.

	Monday Sample	Tuesday Sample	Marked Crabs
Frequency	30	70	6

Using the data in the table, estimate the total population of Crabs in Alex's study.