



Name: _____

Date: _____

1. A pond contains an unknown number of fish.
40 fish are caught, tagged, and released.
Later, 50 fish are caught. 10 of these are tagged.
Estimate the total number of fish in the pond.

200

(3 marks)

2. A wildlife researcher is estimating the number of squirrels in a park.
25 squirrels are caught, tagged, and released.
Later, 30 squirrels are caught.
6 of them are tagged.
Estimate the number of squirrels in the park.

125

(3 marks)

3. A teacher wants to estimate how many students use the school library.
60 students are given a sticker on Monday.
On Tuesday, 80 students enter the library.
15 of them have a sticker.
Estimate the total number of students who use the library.

320

(3 marks)

4. A scientist is studying beetles.
80 beetles are caught, marked, and released.
Later, 100 beetles are caught and 25 are marked.

(a) Estimate the total number of beetles.

320

(3 marks)

(b) Give **one** assumption made.

The population is closed (no births, deaths, immigration or emigration during the study).

(1 mark)

5. A researcher is estimating the number of birds on an island.
120 birds are tagged and released.
Later, 150 birds are captured.
30 of these are tagged.

(a) Estimate the total number of birds.

600

(3 marks)

(b) The researcher repeats the experiment and gets a very different estimate.
Give **one** reason why the estimate might not be accurate.

The population may not be closed (e.g. birds moved on or new birds arrived).

(1 mark)