

Chapter 18 – Statistics: Sampling and more complex diagrams

Exercise 18A – The Petersen Capture-recapture method

- 1 A 3600, B 2300, C 12 500, D 60, E 8500
- 2
 - a C as this has the largest samples
 - b D as this has the smallest samples
- 3 180
- 4
 - a Yes as the population of red squirrels has increased from 300 in 1990, to 800 in 2000 to 930 in 2010. At the same time the population of grey squirrels has decreased from 570 in 1990 to 470 in 2000 to 300 in 2010
 - b That no other factors have affected the population such as disease.
- 5
 - a 440
 - b The sampling methods are not the same so the results may not be reliable. It is assumed that fishermen have reported all fish caught.
- 6
 - a The average number of marked bees is 2, so population = $100 \times 100 \div 2 = 5000$
 - b That the population hasn't changed over the weeks