1 There are 25 students in a class. 17 study French, 12 study Malay, and 10 study both languages.

Show this information on a Venn diagram.

Find the number of students who:

- **a** study French only **b** study Malay or French or both
- c study neither subject d do not study both subjects.
- 2 In a class 20 people take Geography, 17 take History, 10 take both subjects, and 1 person takes neither subject.

Draw a Venn diagram to show this information.

Find the number of students who:

- a are in the classb do not study History
- c study Geography but not History
- d study Geography or History but not both.
- **3** Of the 32 students in a class, 18 play the violin, 16 play the piano, and 7 play neither. Find the number of students who:
  - a play the violin but not the piano b do not play the violin
  - c play the piano but not the violin
  - d play the piano or the violin, but not both.
- 4 There are 30 students in a mathematics class. 20 of the students have studied probability, 14 have studied set theory, and two people have studied neither.

Find the number of students who:

- a have studied both topics
- **b** have studied exactly one of these subjects
- c have studied set theory, but not probability.
- 5 There are 25 girls in a PE group. 13 have taken aerobics before and 17 have taken gymnastics. One girl has done neither before. Find the number of girls who:
  - a have taken both activities
  - **b** have taken gymnastics but not aerobics
  - c have taken at least one of these activities.