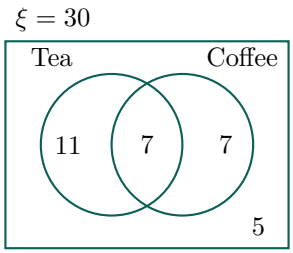
Venn Diagrams and Set Notation

GCSE Mathematics • **Foundation Tier** • Grades 4–6 • Non-calculator

Name: _____ Class: _____ Total: _____ / 51

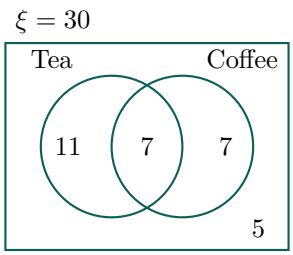
Show all your working. Marks are given for correct method as well as the final answer.

1. 30 people were asked about hot drinks. 18 like tea, 14 like coffee and 7 like both. Work out how many like tea only. **[2 marks]**



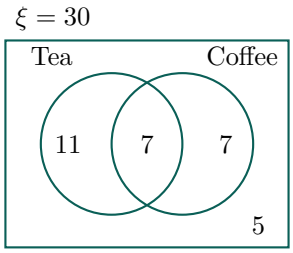
Answer: _____

2. Using the same survey, work out how many like coffee only. **[2 marks]**



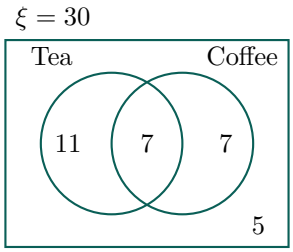
Answer: _____

3. Using the same survey, work out how many like neither. **[3 marks]**



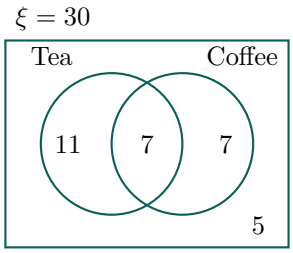
Answer: _____

4. Using the same survey, work out how many like at least one of the two drinks. **[2 marks]**



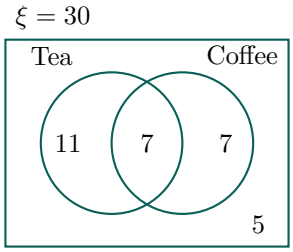
Answer: _____

5. Using the same survey, work out the probability that a person chosen at random likes both. **[2 marks]**



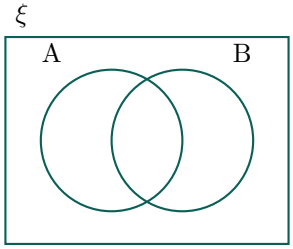
Answer: _____

6. Using the same survey, work out the probability that a person chosen at random likes tea but not coffee. **[2 marks]**



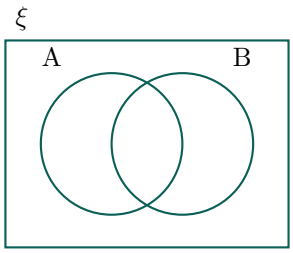
Answer: _____

7. Write down what $A \cap B$ means. **[1 mark]**



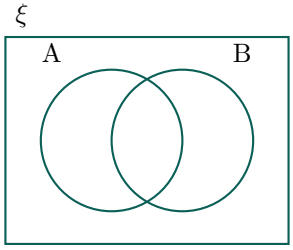
Answer: _____

8. Write down what $A \cup B$ means. **[1 mark]**



Answer: _____

9. Write down what A' means. **[1 mark]**



Answer: _____

10. $\xi = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$, A is the even numbers and B is the multiples of 3. List $A \cap B$. **[2 marks]**

Answer: _____

11. Using the same sets, list $A \cup B$. **[2 marks]**

Answer: _____

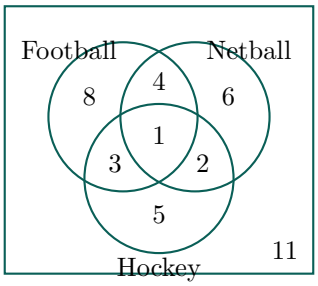
12. Using the same sets, list A'. **[2 marks]**

Answer: _____

13. Using the same sets, work out $n(A \cup B)$. **[1 mark]**

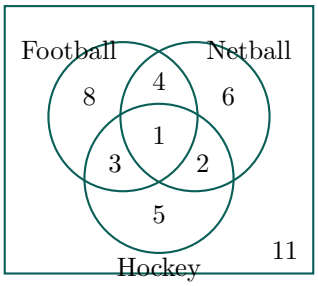
Answer: _____

14. The Venn diagram shows which sports 40 pupils play. Work out how many play football. **[2 marks]**



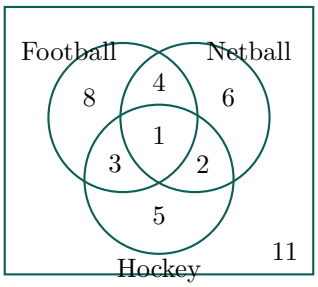
Answer: _____

15. Using the same diagram, work out how many play exactly two sports. **[2 marks]**



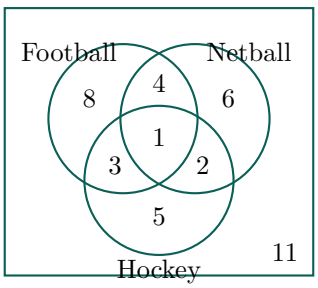
Answer: _____

16. Using the same diagram, work out how many play no sport. **[3 marks]**



Answer: _____

17. Using the same diagram, work out the probability a pupil chosen at random plays all three sports. **[2 marks]**



Answer: _____

18. 50 people were asked about two magazines. 28 read A, 22 read B and 9 read neither.

(a) Work out how many read both. **[4 marks]**

(b) Work out how many read A only. **[2 marks]**

Answer: _____

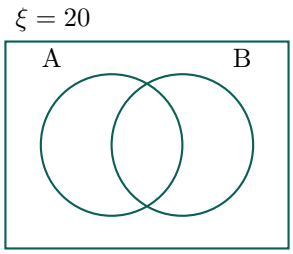
19. In a class of 32, 20 study French, 15 study German and 4 study neither.

(a) Work out how many study both languages. **[4 marks]**

(b) Work out the probability that a pupil chosen at random studies German only. **[3 marks]**

Answer: _____

20. ξ is the whole numbers from 1 to 20. A is the multiples of 4 and B is the multiples of 6.



(a) List $A \cap B$. **[3 marks]**

(b) Work out $n(A \cup B)'$. **[3 marks]**

Answer: _____

Free to print and use at home or in class. Please do not re-host or sell. Written by Hampstead Tuition Centre from the published exam specifications.