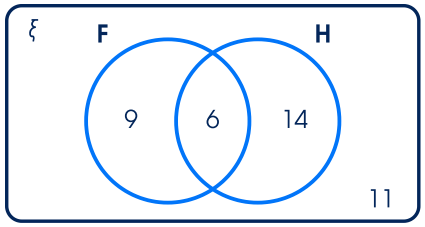
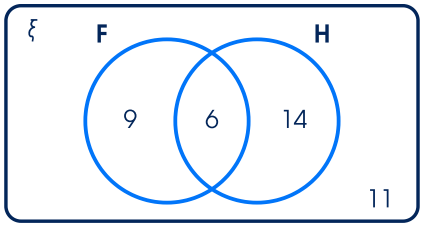
GCSE HIGHER · REVISION MAT 2

Venn diagrams and two-way tables

1 How many are in F but not in H?



2 Find P(not in F).



3 Explain why $n(F \cup H) = n(F) + n(H) - n(F \cap H)$.

4 In a class of 32, 20 have a dog, 15 have a cat and 6 have neither.

How many have both?

5 Show that 26 students chose netball.

	Football	Netball	Hockey	Total
Year 10	18	12		40
Year 11	15		11	40
Total	33		21	80

6 One student is chosen at random.

Find P(Year 11 and hockey).

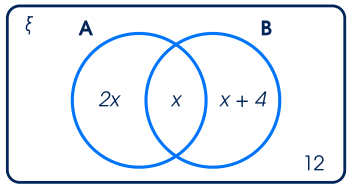
	Football	Netball	Hockey	Total
Year 10	18	12		40
Year 11	15		11	40
Total	33		21	80

7 $\xi = \{1, 2, \ldots, 10\}$, P = prime numbers, O = odd numbers.

Show that $P \cap O = \{3, 5, 7\}$.

8 There are 40 people.

$n(A) = 18$.



Find x and P(B).

Mr&Mrs MATHS

ANSWERS · REVISION MAT 2

Venn diagrams and two-way tables

1 **9**

2 Total 40

14 + 11 = 25

$\frac{25}{40} = \frac{5}{8}$

3 **Adding n(F) and n(H) counts the overlap twice.**

4 32 – 6 = 26 have at least one

20 + 15 – 26 = 9

5 Year 10 hockey: 10, Year 11 netball: 14

12 + 14 = 26

6 $\frac{11}{80}$

7 P = {2, 3, 5, 7}, O = {1, 3, 5, 7, 9}

P ∩ O = {3, 5, 7}

8 $3x = 18 \Rightarrow x = 6$

B: 6 + 10 = 16

$x = 6$, P(B) = $\frac{2}{5}$

Mr&Mrs MATHS