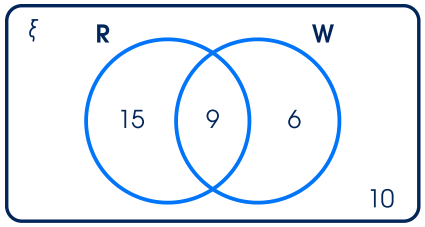
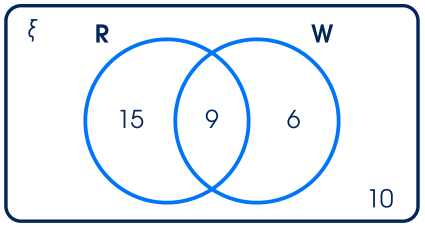
GCSE HIGHER · REVISION MAT 4

Venn diagrams and two-way tables

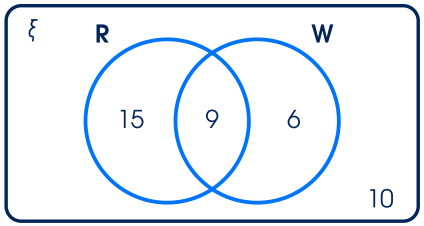
1 How many are in R ∩ W?



2 Find P(W).



3 Explain why P(R ∪ W) ≠ P(R) + P(W) here.



4 80 pupils: 45 play an instrument, 38 sing and 20 do both.

How many do neither?

5 Show that 42 students take the bus.

	Walk	Bus	Car	Total
Year 7	22	18		50
Year 8	16		10	50
Total	38		20	100

6 One student is chosen at random.

Find P(Year 8 and walks).

	Walk	Bus	Car	Total
Year 7	22	18		50
Year 8	16		10	50
Total	38		20	100

7 ξ = {1, 2, ..., 20}, A = square numbers, B = even numbers.

Show that A ∩ B = {4, 16}.

8 P(A) = 0.5, P(B) = 0.4 and P(A ∩ B) = 0.15.

Find P(neither A nor B).

Mr&Mrs MATHS

ANSWERS · REVISION MAT 4

Venn diagrams and two-way tables

1 **9**

2 Total 40

$\frac{15}{40} = \frac{3}{8}$

3 **The 9 in both sets would be counted twice.**

4 $45 + 38 - 20 = 63$

17

5 Year 8 bus: 24

18 + 24 = 42

6 $\frac{16}{100} = \frac{4}{25}$

7 $A = \{1, 4, 9, 16\}$

$A \cap B = \{4, 16\}$

8 $P(A \cup B) = 0.5 + 0.4 - 0.15 = 0.75$

0.25

Mr&Mrs MATHS