

Exercise 3B

- 1** In a group of 35 children, 10 have blonde hair, 14 have brown eyes, and 4 have both blonde hair and brown eyes.
Draw a Venn diagram to represent this situation.
A child is selected at random. Find the probability that the child has blonde hair or brown eyes.
- 2** In a class of 25 students, 15 of them study French, 13 of them study Malay and 5 of them study neither language.
One of these students is chosen at random from the class. What is the probability that he studies both French and Malay?
- 3** There are 25 girls in a PE group. 13 have taken aerobics before and 17 have taken gymnastics. One girl has done neither before.
How many have done both activities?
One girl is chosen at random. Find the probability that:
 - a** she has taken both activities,
 - b** she has taken gymnastics but not aerobics.

EXAM-STYLE QUESTION

- 4** Of the 32 students in a class, 18 play golf, 16 play the piano and 7 play both. How many play neither?
One student is chosen at random. Find the probability that:
 - a** he plays golf but not the piano,
 - b** he plays the piano but not golf.

EXAM-STYLE QUESTION

- 5** The universal set U is defined as the set of positive integers less than or equal to 15. The subsets A and B are defined as:

$$A = \{\text{integers that are multiples of 3}\}$$

$$B = \{\text{integers that are factors of 30}\}$$

- a** List the elements of
- A
 - B
- b** Place the elements of A and B in the appropriate region on a Venn diagram.
- c** A number is chosen at random from U . Find the probability that the number is
- both a multiple of 3 and a factor of 30,
 - neither a multiple of 3 nor a factor of 30.
- 6** In a town 40% of the population read newspaper 'A', 30% read newspaper 'B', 10% read newspaper 'C'. It is found that 5% read both 'A' and 'B'; 4% read both 'A' and 'C'; and 3% read both 'B' and 'C'. Also, 2% of the people read all three newspapers. Find the probability that a person chosen at random from the town
- reads only 'A',
 - reads only 'B',
 - reads none of the three newspapers.
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Exercise 3C

- 2** A ten-sided dice, numbered 1 to 10, is rolled. Calculate the probability that:
- a** the number scored is a prime number,
 - b** the number scored is either a prime number or a multiple of 4,
 - c** the number scored is either a multiple of 4 or a multiple of 3.

EXAM-STYLE QUESTIONS

- 6** In a certain road $\frac{1}{3}$ of the houses have no newspapers delivered. If $\frac{1}{4}$ have a national paper delivered and $\frac{3}{5}$ have a local paper delivered, what is the probability that a house chosen at random has both?
- 8** If $P(A) = 0.2$ and $P(B) = 0.5$ and $P(A \cap B) = 0.1$, find
- a** $P(A \cup B)$
 - b** $P(A \cup B)'$
 - c** $P(A' \cup B)$.
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