

Probability

Syllabus tracker [Open it online](#)

Name: _____

Date: _____

Tick one circle for each statement — on screen (click) or with a pen. Then try the quick checks: write your answer in the box, check it against the answers at the end, and tick “right” when you got it. ★ = IGCSE Extended tier only.

Single events

Probability of one event, not happening, relative and expected frequency.

	Don't know	Shaky	Got it
I can find the probability of a single event.	☐	☐	☐
I can use $P(\text{not } A) = 1 - P(A)$.	☐	☐	☐
I can use probabilities that add up to 1.	☐	☐	☐
I can use relative frequency to find an expected frequency.	☐	☐	☐

Sample spaces

Listing all outcomes of two events.

	Don't know	Shaky	Got it
I can use a sample space diagram.	☐	☐	☐

Combined events and tree diagrams

AND and OR rules, tree diagrams with replacement and 'at least one'.

	Don't know	Shaky	Got it
I can use the AND and OR rules.	☐	☐	☐
I can use a tree diagram with replacement.	☐	☐	☐
I can find the probability of 'at least one'.	☐	☐	☐

Without replacement and conditional probability ★

Changing probabilities and 'given that'.

	Don't know	Shaky	Got it
I can use a tree diagram without replacement. ★	☐	☐	☐
I can find a conditional probability. ★	☐	☐	☐

Quick checks

One quick question per statement. Answer in the box, then check the answers at the end.

1. A bag has 3 red, 5 blue and 2 green beads. One is picked at random. Find $P(\text{blue})$.

Answer: _____ ☐ I got it right

2. $P(\text{rain}) = 0.35$. Find $P(\text{no rain})$.

Answer: _____ ☐ I got it right

3. The only outcomes A, B and C have probabilities 0.2, 0.45 and x. Find x.

Answer: _____

☐ I got it right

4. A spinner landed on 6 in 45 of 300 spins. How many 6s would you expect in 1000 spins?

Answer: _____

☐ I got it right

5. Two fair dice are rolled. Find the probability that the total is 7.

Answer: _____

☐ I got it right

6. For independent events A and B, $P(A \text{ and } B) = \dots$

A $P(A) \times P(B)$ **B** $P(A) + P(B)$ **C** $P(A) - P(B)$ **D** $P(A) \div P(B)$

Answer: _____

☐ I got it right

7. A bag has 3 red and 2 blue counters. One is taken and replaced, then another is taken. Find $P(\text{both red})$.

Answer: _____

☐ I got it right

8. Each of two independent shots hits with probability 0.4. Find $P(\text{at least one hit})$.

Answer: _____

☐ I got it right

9. A bag has 3 red and 2 blue counters. Two are taken without replacement. Find $P(\text{both red})$.

Answer: _____

☐ I got it right

10. 12 of 20 girls and 6 of 10 boys wear glasses. A student who wears glasses is chosen. Find the probability it is a boy.

Answer: _____

☐ I got it right

Answers

Try every question first, then check.

1. $\frac{1}{2}$

2. 0.65

3. 0.35

4. 150

5. $\frac{1}{6}$

6. A: $P(A) \times P(B)$

7. $\frac{9}{25}$

8. 0.64

9. $\frac{3}{10}$

10. $\frac{1}{3}$