

Checklist

What you should know

By the end of this subtopic you should be able to:

- identify how many events are present within a probability question
- calculate probabilities using Bayes' theorem for questions with two events,

$$P(B | A) = \frac{P(B \cap A)}{P(A)} = \frac{P(B) P(A | B)}{P(B) P(A | B) + P(B') P(A | B')}$$

- use the extended version of Bayes' theorem for questions with three events,

$$P(B_i | A) = \frac{P(B_i) P(A | B_i)}{P(B_1) P(A | B_1) + P(B_2) P(A | B_2) + P(B_3) P(A | B_3)}$$

- sketch tree diagrams to represent information given with a question.

