

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.

