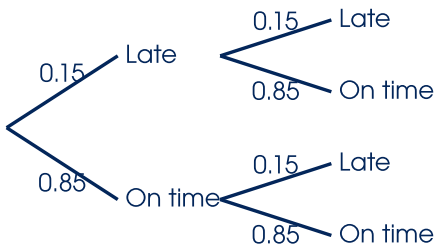
GCSE HIGHER · REVISION MAT 5

Combined events

1 Two fair spinners are numbered 1 to 3.

Find P(both land on 3).

2 P(late) = 0.15 each day, independently.



Find P(late on both days).

3 A and B are independent.

Show that P(not A and not B) = (1 – P(A))(1 – P(B)).

4 Three fair dice are rolled.

Find P(no sixes).

5 Two cards are taken from a pack of 52 without replacement.

Show that P(both aces) = $\frac{1}{221}$.

6 A bag has 3 red, 4 green and 5 blue counters.

Two are taken without replacement.

Find P(both the same colour).

7 Explain why you multiply along branches and add between branches on a tree diagram.

8 P(a seed germinates) = 0.9.

3 seeds are planted.

Find P(at least 2 germinate).

Mr&Mrs MATHS

ANSWERS · REVISION MAT 5

Combined events

1 $\frac{1}{9}$

2 0.15^2

0.0225

3 **'Not A' and 'not B' are also independent, so multiply their probabilities.**

4 $(\frac{5}{6})^3$

$\frac{125}{216}$

5 $\frac{4}{52} \times \frac{3}{51} = \frac{12}{2652}$

$= \frac{1}{221}$

6 $\frac{6 + 12 + 20}{132}$

$\frac{19}{66}$

7 **Along a branch both events happen ('and'); different branches are separate outcomes ('or').**

8 $0.9^3 + 3 \times 0.9^2 \times 0.1$

$= 0.729 + 0.243$

0.972