GCSE HIGHER · REVISION MAT 3

Combined events

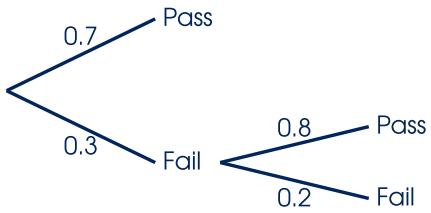
1 A coin is flipped twice.

Find P(two tails).

2 Amy takes her driving test.

P(pass first time) = 0.7.

If she fails,
P(pass second time) = 0.8.



Find the probability that Amy passes at her second attempt.

3 P(rain) = 0.2 each day, independently.

Show that
P(rain on both of two days) = 0.04.

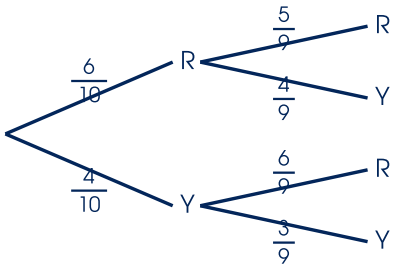
4 An archer hits the target with probability 0.8 each shot.

She takes 3 shots.

Find P(hits all three) and P(misses at least once).

5 A bag has 6 red and 4 yellow balls.

Two are taken without replacement.



Show that

P(one of each colour) = $\frac{8}{15}$.

6 Using the same bag, find P(the second ball is yellow).

7 Explain why, in the question above, P(second ball yellow) equals P(first ball yellow).

8 A drawer has 5 black and 3 white socks.

Three are taken without replacement.

Find P(all three are the same colour).

Mr&Mrs MATHS

ANSWERS · REVISION MAT 3

Combined events

1 $\frac{1}{4}$

2 0.3×0.8

0.24

3 **$0.2 \times 0.2 = 0.04$**

4 **$0.8^3 = 0.512$**

$1 - 0.512 = 0.488$

5 $2 \times \frac{6}{10} \times \frac{4}{9} = \frac{48}{90}$

$= \frac{8}{15}$

6 $\frac{6}{10} \times \frac{4}{9} + \frac{4}{10} \times \frac{3}{9} = \frac{36}{90}$

$\frac{2}{5}$

7 **Without information about the first ball, each ball is equally likely to be any of the 10.**

8 $\frac{5}{8} \times \frac{4}{7} \times \frac{3}{6} + \frac{3}{8} \times \frac{2}{7} \times \frac{1}{6}$

$= \frac{60 + 6}{336}$

$\frac{11}{56}$

Mr&Mrs MATHS