

Chapter 6

Exercise 6A

- 1 a very unlikely
b even chance
c very unlikely
d certain
e very unlikely
f impossible
g very likely
h impossible
i unlikely
- 2 a $\frac{3}{10}$
b $\frac{1}{10}$
c $\frac{3}{10}$
d 0
- 3 a $\frac{1}{13}$
b $\frac{3}{4}$
c $\frac{1}{26}$
d $\frac{1}{2}$
e $\frac{2}{13}$
f $\frac{1}{26}$
- 4 a (i) $\frac{1}{3}$
(ii) $\frac{1}{6}$
(iii) $\frac{2}{3}$
(iv) 1
b 36
- 5 Sharon: $\frac{1}{2}$, Chris: $\frac{1}{3}$. Sharon.
- 6 a $\frac{33}{172}$
b $\frac{13}{86}$
c Young wage earners, drinking culture, no family to support.
- 7 a $\frac{559}{1087}$
b $\frac{21}{1087}$
c $\frac{431}{1087}$
d More active life-style, risk takers.
- 8 a 1265200
b (i) 1825
(ii) 1095
c (i) 70560
(ii) 24 500

d Advertising and GP advice.

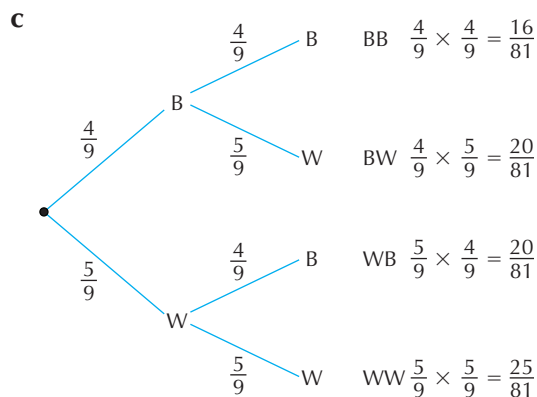
- 9 a (i) $\frac{23}{57}$
(ii) $\frac{34}{57}$
b (i) 3.23
(ii) 4.77
c Christmas – extra bills.
- 10 a (i) $\frac{19}{261}$
(ii) $\frac{5}{87}$
(iii) $\frac{19}{302}$
b (i) 3.2
(ii) 2.53
(iii) 2.83
c Gold expected, silver better than expected, bronze better than expected.
- 11 a (i) $\frac{7}{244}$
(ii) $\frac{341}{3050000}$
b (i) 206,557,377
(ii) 804,984
c Contracting expected. Deaths reduced from expected – better treatment/prevention/education.

Exercise 6B

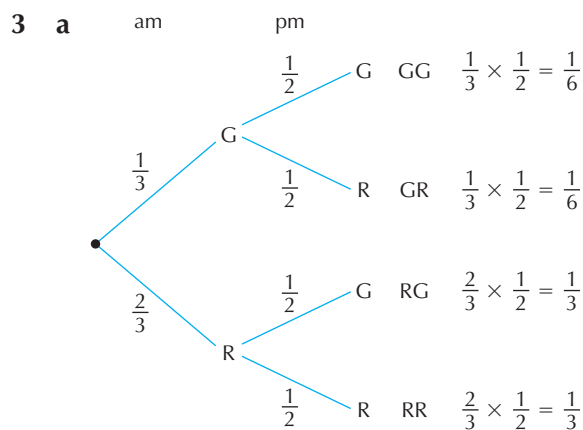
- 1 a
-
- HHH = $\frac{1}{8}$
HHT = $\frac{1}{8}$
HTH = $\frac{1}{8}$
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TTH = $\frac{1}{8}$
TTT = $\frac{1}{8}$
- b (i) $\frac{1}{8}$
(ii) $\frac{3}{8}$
(iii) $\frac{7}{8}$
c (i) 0.125
(ii) 0.375
(iii) 0.875

- d** (i) 12.5%
 (ii) 37.5%
 (iii) 87.5%

2 a $\frac{4}{9}$
b $\frac{5}{9}$



- d** (i) $\frac{16}{81}$
 (ii) $\frac{40}{81}$



- b** (i) $\frac{1}{6}$
 (ii) $\frac{1}{3}$

c 4

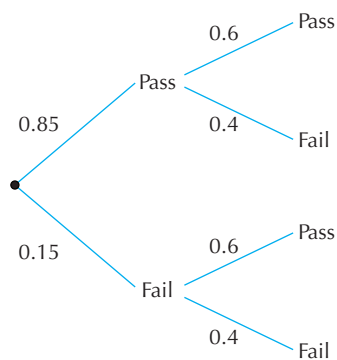
d $\frac{1}{4}$
4 a $\frac{2}{45}$
c $\frac{28}{45}$

b $\frac{7}{45}$

5 a 0.096
c 0.392

b 0.084

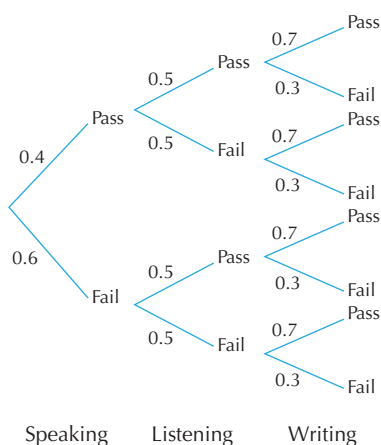
6 a



b 0.51

c 0.43

7 a



b 0.14

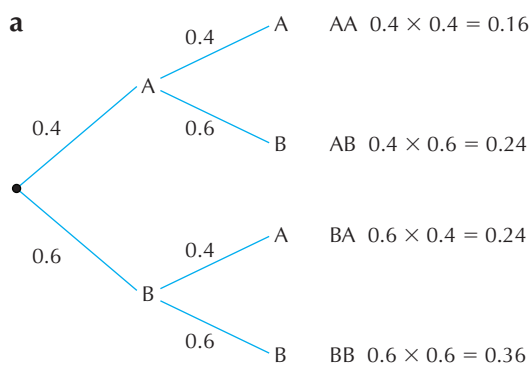
c 0.41

d 0.09

8 a 0.54

b 0.36

9 a



b 0.16

c 0.48

Exercise 6C

- 1 a $\frac{199}{857}$
 b $\frac{218}{857}$
 c 1170
 d (i) safer vehicles, better education, less journeys made due to rising fuel costs
 (ii) lower speed, drive daytime, seatbelts required before car start.
- 2 a 0.042
 b 0.38
 c Carelessness, not professionals, unaware of risks.
- 3 a 0.53
 b 0.996
 c Fewer chimneys.
 d (i) more fire doors, better alarms, sprinklers
 (ii) warnings, education
- 4 a 0.46
 b 0.56
 c so effectiveness can be compared to baseline of no medication.
- 5 a (i) 0.823
 (ii) 0.825
 (iii) 0.831
- b 0.174
 c Drug 3; fewer side effects.
 d How bad are side effects. How good are three drugs at “killing germs”
- 6 a 182
 b (i) 0.0000045
 (ii) Yes, fewer than expected.
 c (i) 11
 (ii) No, 22 is double expected.
 d Advertising, education/training, inspections.
- 7 a (i) 9030
 (ii) 2795
 b 17630
 c 0.004
 d (i) 0.026
 (ii) Gymnastics less likely, lower risk
 e More training for coaches, more care.

Exercise 6D

- 1 A – tripping on rocky path
 B – excessive drinking alcohol
 C – Motorcycling in dark in winter
 D – cycling on dry cycle path
 E – Attacked by a shark

2

what has pot to cause harm	who and how many	measures in place	severity	likelihood	risk rating
fall downstairs	pupil (15) + teach (2)	common sense instruction	3	2	M
bus crash	pupil (15) + teach (2)	good bus company	3	1	L
heart attack	pupil (15) + teach (2)	H & S staff training	4	1	L
lost	pupil (15)	instructions to pupils + maps	2	2	L

3 a

what has pot to cause harm	who and how many	measures in place	severity	likelihood	risk rating
injury on pitch	pupil (15)	pitch safety team	2	3	H
bus crash	pupil (15) + teach (2)	good bus company	3	1	M
heart attack	pupil (15) + teach (2)	H & S staff training	4	1	M
lost	pupil (15)	instructions to pupils + maps	2	1	L

b

what has pot to cause harm	who and how many	measures in place	severity	likelihood	risk rating
injury on court	pupil (15)	safety team	2	2	L
bus crash	pupil (15) + teach (2)	good bus company	3	1	M
heart attack	pupil (15) + teach (2)	H & S staff training	4	1	M
lost	pupil (15)	instructions to pupils + maps	2	1	L

c

what has pot to cause harm	who and how many	measures in place	severity	likelihood	risk rating
injury (eye, limb, head)	pupil (100) staff (10)	safety team	3	2	H
bus crash	pupil (100) + staff (10)	good bus company	3	1	M
heart attack	pupil (100) + staff (10)	H & S staff training	4	1	M
lost	pupil (100)	instructions to pupils + maps	2	1	L

4

what has pot to cause harm	who and how many	measures in place	severity	likelihood	risk rating
injury (fall, eye, head)	pupil (15) + teach (2)	safety team in training	3	2	H
bus crash	pupil (15) + teach (2)	good bus company	3	1	L
heart attack	pupil (15) + teach (2)	H & S staff training	4	1	M
lost	pupil (15)	instructions to pupils + maps	4	2	H